

# ALZHEIMER'S DISEASE AND OTHER DEMENTIAS IN SAN DIEGO COUNTY

MARCH 2015



COUNTY OF SAN DIEGO  
**HHSA**  
HEALTH AND HUMAN SERVICES AGENCY



**LIVE WELL**  
SAN DIEGO



**ALZHEIMER'S**Project  
San Diego unites for a cure and care

**This page is intentionally left blank.**

# **ALZHEIMER'S DISEASE AND OTHER DEMENTIAS IN SAN DIEGO COUNTY**

County of San Diego  
Health and Human Services Agency

Aging & Independence Services  
Public Health Services

March 2015

## **For additional information, contact:**

Community Health Statistics Unit  
6255 Mission Gorge Road  
San Diego, CA 92120  
(619) 285-6429  
[www.sdhealthstatistics.com](http://www.sdhealthstatistics.com)

# ALZHEIMER'S DISEASE AND OTHER DEMENTIAS IN SAN DIEGO COUNTY

**Suggested Citation:** County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit, 2015. *Alzheimer's Disease and Other Dementias in San Diego County*. Retrieved MM/DD/YY from [www.SDHealthStatistics.com](http://www.SDHealthStatistics.com).

## QR CODES:

QR codes are similar to barcodes. Use your smart phone to scan the QR Code and navigate directly to the report online for download. Download a free QR code reader from your app provider.





March 13, 2015

**B**attling Alzheimer's disease is now one of San Diego County's leading public health priorities.

The statistics are startling: Alzheimer's is the region's third leading cause of death; some 60,000 residents have the deadly disease or other form of dementia; thousands of families struggle to provide quality care under tough circumstances; and the toll on taxpayers, caregivers and the healthcare system runs into billions of dollars a year.

In 2014, the County created The Alzheimer's Project, an ambitious regional initiative to find a cure and to help those with the disease and their caregivers.

As part of The Project, San Diego's world-class researchers are teaming up to accelerate efforts to find a treatment or cure, while physicians have set out to craft standards for the diagnosis and management of the disease. The County, working with the City of San Diego, Alzheimer's Association and other groups, is ramping up efforts to educate the public, assist families and improve the health and safety of those with dementia.

This report, *Alzheimer's Disease and Other Dementias in San Diego County*, provides a statistical snapshot of the challenge facing us.

It will help guide our way as we tackle this public health menace together.

Dianne Jacob

Supervisor, Second District

Dave Roberts

Supervisor, Third District



# County of San Diego

NICK MACCHIONE, FACHE  
AGENCY DIRECTOR

HEALTH AND HUMAN SERVICES AGENCY  
1600 PACIFIC HIGHWAY, ROOM 206, MAIL STOP P-501  
SAN DIEGO, CA 92101-2417  
(619) 515-6555 • FAX (619) 515-6556

DEAN ARABATZIS  
CHIEF OPERATIONS OFFICER

March 13, 2015

Dear San Diegans,

The County of San Diego Health and Human Services Agency, which includes Aging & Independence Services and Public Health Services, is proud to release *Alzheimer's Disease and Other Dementias in San Diego County*. Alzheimer's disease is the third leading cause of death in San Diego County.

In January 2014, then Chairwoman Dianne Jacob issued a groundbreaking call to action and, joined by Supervisor Dave Roberts, convened The Alzheimer's Project. This visionary leadership brought together members of the care community, researchers, and physicians to improve care and accelerate the search for a cure. This report provides valuable insight into this devastating disease in our local community.

This report estimates that 60,000 San Diegans, over 8% of the population, aged 55 and older, are currently living with Alzheimer's disease and other dementias. More than 136,800 caregivers, usually family members, provide 156 million hours of unpaid care annually. Understanding the impact of Alzheimer's disease and other dementias is an essential part of the County's *Live Well San Diego* vision that promotes healthy, safe, and thriving communities for all residents.

*Live Well San Diego,*

Ellen Schmeding,  
Director, Aging & Independence Services

Wilma J. Wooten, M.D., M.P.H.  
Public Health Officer  
Director, Public Health Services

# TABLE OF CONTENTS

## ALZHEIMER’S DISEASE AND OTHER DEMENTIAS IN SAN DIEGO COUNTY

EXECUTIVE SUMMARY .....	i
INTRODUCTION .....	1
ALZHEIMER’S DISEASE AND OTHER DEMENTIAS DATA:	
SAN DIEGO COUNTY .....	3
CENTRAL REGION .....	6
EAST REGION .....	9
NORTH CENTRAL REGION .....	12
NORTH COASTAL REGION .....	15
NORTH INLAND REGION .....	18
SOUTH REGION .....	21
CAREGIVERS IN SAN DIEGO COUNTY .....	24
EARLY SIGNS AND SYMPTOMS .....	26
HEALTHY BRAIN STRATEGIES .....	28
REFERENCES .....	30
DATA GUIDE AND DEFINITIONS .....	32



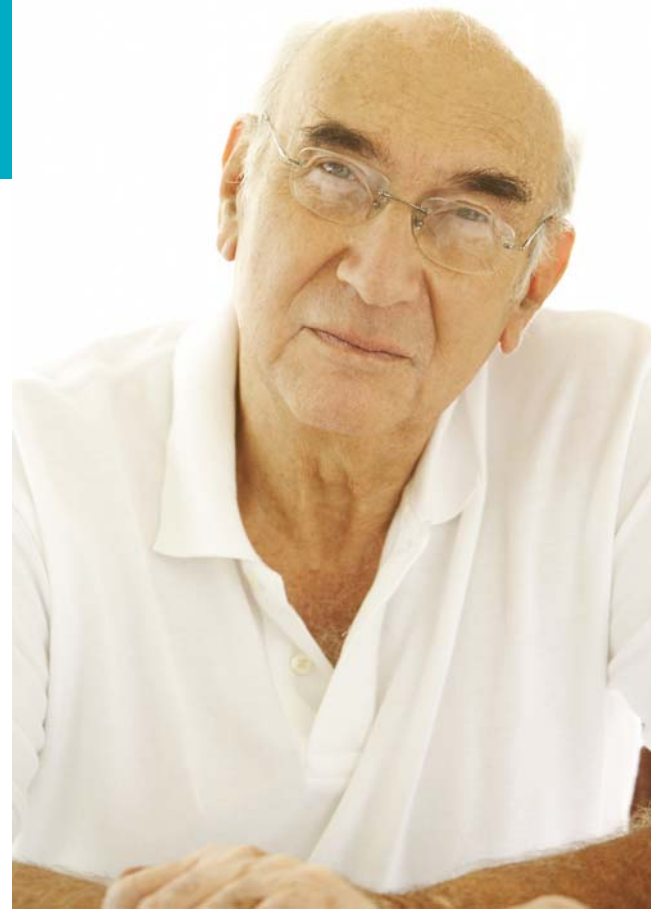
# EXECUTIVE SUMMARY

## Alzheimer's Disease and Other Dementias

Alzheimer's disease is the most common form of dementia, yet all dementias are characterized by a decline in thinking skills, memory loss, and reduced ability to perform everyday activities.<sup>1</sup> For this report, the definition of Alzheimer's disease was expanded to include other dementias since those suffering from dementia need access to similar resources, such as caregivers and health professionals trained in the care and treatment of persons with dementia.

Alzheimer's disease is the sixth leading cause of death in the U.S.,<sup>2</sup> fifth leading cause of death in California,<sup>3</sup> and the third leading cause of death in San Diego County.<sup>4</sup> In 2012, an estimated 60,000 San Diegans age 55 years and older were living with Alzheimer's disease and other dementias (ADOD), accounting for 8.3% of the 55 years and older population.<sup>1,5</sup> That same year, more than 19,000 San Diegans age 55 years and older were discharged from the emergency department (ED) or hospital with a mention of ADOD.

Assuming current trends continue, by 2030 nearly 94,000 residents 55 years and older will be living with ADOD, a 56% increase from 2012. In addition, nearly 32,000 San Diego County residents age 55 years and older are projected to be discharged from the ED or hospital with a mention of ADOD by 2030.



**In 2012:  
60,000 San Diegans  
age 55 years and older  
were living with  
ADOD.**



**By 2030:  
94,000 San Diegans  
age 55 years and older  
will be living with ADOD,  
an increase of 56%  
from 2012.**



# EXECUTIVE SUMMARY

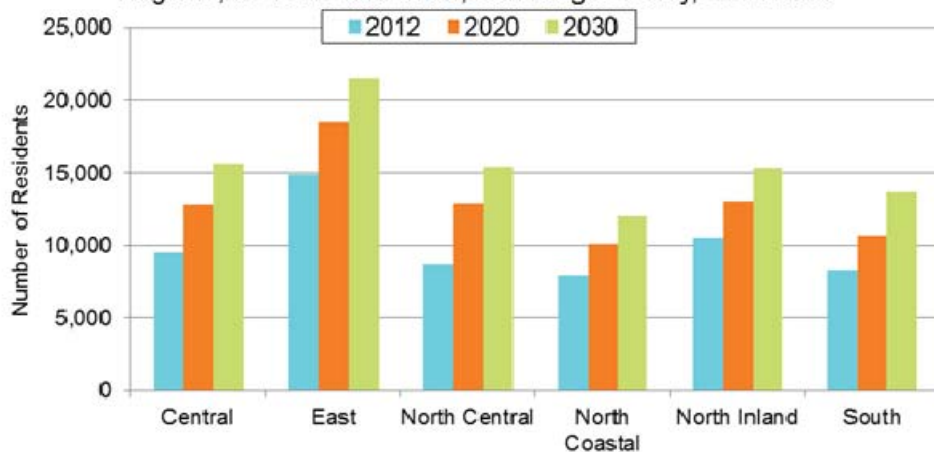
## ADOD Among Health and Human Services Agency Regions

Compared to the other Health and Human Services Agency Regions, in 2012:

- East Region had the greatest number (14,865) and proportion (12.4%) of residents age 55 years and older living with ADOD.
- Similarly, East Region had the highest rate (3,386.1 per 100,000 residents) of residents discharged from the ED or hospital with any mention of ADOD.
- North Coastal Region had the smallest population age 55 years and older living with ADOD (7,985).
- North Central Region had the lowest proportion (6.1%) of its 55 years and older population living with ADOD.
- North Central Region had the lowest rate (2,307.4 per 100,000 residents) of residents discharged from the ED or hospital with any mention of ADOD.



Estimate of the Number of Residents with Alzheimer's Disease and Other Dementias by Health and Human Services Agency Regions, 55 Years and Older, San Diego County, 2012-2030



Source: County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics, Alzheimer's Disease and Other Dementias Database.

**In 2012, East Region had the greatest number of residents, age 55 years and older, living with ADOD.**

# EXECUTIVE SUMMARY



By 2030, among Health and Human Services Agency Regions:

- East Region is projected to remain the region with the greatest number (21,489) of and proportion (12.0%) of residents age 55 years and older living with ADOD. East Region is also expected to have the highest number (6,644) of residents discharged from the ED or hospital with any mention of ADOD.
- North Coastal Region will remain the region with the lowest number of residents 55 years and older living with ADOD (12,002), while North Central Region will remain the region with the lowest proportion of residents 55 years and older living with ADOD (6.3%).
- Central Region is projected to have the least number (4,190) of its residents discharged from the ED or hospital with any mention of ADOD.

**By 2030, East Region will continue to have the greatest number and proportion of residents 55 years and older living with ADOD.**

## Caregivers in San Diego County

In 2012, nearly 137,000 caregivers provided unpaid care for the 60,000 people living with ADOD in San Diego County.<sup>1, 5</sup> These caregivers provided nearly 156 million hours of unpaid care, valued at \$1.94 billion dollars. By 2030, there will be nearly 94,000 San Diegans age 55 years and older living with ADOD, which will require more than 213,300 caregivers to provide 242.8 million hours of unpaid care a year. This care is estimated to be worth \$3.02 billion in 2013 dollars.

The work required of caregivers, including the physical tasks, organization, and required planning can lead to increased emotional stress, depression, financial hardships, and poor health.<sup>1</sup> In 2013, the health care costs to caregivers due to the physical and emotional impact of caregiving were approximately \$75.4 million dollars. By 2030, the health care costs of unpaid caregivers will increase to \$117.6 million a year in 2013 dollars.

For information on resources for those living with ADOD and their caregivers, contact the County of San Diego Aging & Independence Services at 800-510-2020 or the San Diego/Imperial Chapter of the Alzheimer's Association.

# EXECUTIVE SUMMARY

## Signs, Symptoms, and Prevention

The Alzheimer's Association has described 10 early signs and symptoms that are typical of Alzheimer's disease. These include memory loss that disrupts daily life, challenges in planning or solving problems, and difficulty completing familiar tasks at home, work, or during leisure time.<sup>6</sup> However, these early signs and symptoms are not meant to replace an evaluation by a doctor trained in the diagnosis of ADOD.

Although there is no cure for ADOD, several studies have suggested that it may be possible to delay or prevent the onset of ADOD by practicing brain health strategies.<sup>7</sup> Many of the recommendations for maintaining physical health can be used for brain health, such as eating a balanced diet, managing chronic conditions, and being physically active. For more information, visit <http://www.alz.org> and <http://www.nia.nih.gov>.

## References

1. Alzheimer's Association. *2014 Alzheimer's Disease Facts and Figures, Alzheimer's & Dementia*. Volume 10, Issue 2. [http://www.alz.org/downloads/Facts\\_Figures\\_2014.pdf](http://www.alz.org/downloads/Facts_Figures_2014.pdf). Accessed 6/1/2014.
2. Centers for Disease Control and Prevention National Vital Statistics System, National Center for Health Statistics. *10 Leading Causes of Death by Age Group, United States—2012*. <http://www.cdc.gov/injury/wisqars/LeadingCauses.html>. Accessed 10/14/2014.
3. California Department of Public Health, Office of Health Information and Research. *California's Leading Causes of Death for 2012*. <http://www.cdph.ca.gov/programs/ohir/Pages/CHSP.aspx>. Accessed 10/14/2014.
4. County of San Diego, Health & Human Services Agency, Public Health Services, Epidemiology & Immunization Services Branch. *Leading Causes of Death Among San Diego County Residents, 2010-2012*. [http://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/community\\_epidemiology/epi\\_stats\\_mortality.html#leading-causes-of-death](http://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/community_epidemiology/epi_stats_mortality.html#leading-causes-of-death). Accessed 10/14/2014.
5. Alzheimer's Association. *Alzheimer's Disease Facts and Figures in California: Current Status and Future Projections*. 2009. <http://www.alz.org/cadata/FullReport2009.pdf>. Accessed 6/1/2014.
6. Alzheimer's Association. *Know the 10 Signs*. 2009. [http://www.alz.org/alzheimers\\_disease\\_know\\_the\\_10\\_signs.asp](http://www.alz.org/alzheimers_disease_know_the_10_signs.asp). Accessed 10/14/2014.
7. Alzheimer's Association. *Brain Health*. <http://www.alz.org/we-can-help-brain-health-maintain-your-brain.asp>. Accessed 10/14/2014.





# INTRODUCTION

Alzheimer's disease is the third leading cause of death in San Diego County, and the sixth leading cause of death in the U.S.<sup>1,2</sup> In May 2014, the County of San Diego Board of Supervisors voted to launch the Alzheimer's Project to address the devastating effects of the disease on affected individuals, their families and the region's health care system. The Alzheimer's Project will bring together the region's caregivers, researchers, clinicians, advocacy groups and leadership to inventory and improve caregivers resources and provide support for local efforts to find a cure. The Alzheimer's Project includes six major components:

- Cure - enhance the awareness, partnerships and funding for Alzheimer's disease research.
- Care - develop a countywide plan to improve the network of services for those afflicted with the disease and their caregivers.
- Clinical - address improving medical care for patients with Alzheimer's disease and other dementias (ADOD).
- Education/Awareness - develop a multi-faceted education and public awareness campaign.
- Legislation - support legislation that increases funding for Alzheimer's disease research and provides resources for caregivers, family members and those directly affected by the disease.
- Funding - identify and pursue opportunities for additional resources to support the Alzheimer's Project.

The Alzheimer's Project supports the *Live Well San Diego* vision, which encourages residents to live healthy, safe, and thriving lives. The initiative is a comprehensive, long term plan to advance the health and well-being of all San Diegans through a collective effort that involves residents, community, faith-based organizations, business, schools, law enforcement, local city and tribal jurisdictions, and the County of San Diego.

The Alzheimer's Project will inventory and improve resources for San Diegans living with ADOD and their caregivers in order to enhance their ability to live healthy, safe, and thriving lives. Specifically, improving coordination and communication related to ADOD care and raising awareness for early diagnosis will improve the health of San Diegans with ADOD as well as the health of their caregivers. An inventory of resources and facilities with designated ADOD programs as well as education on environmental modifications will ensure the safety of those living with the disease. Lastly, improving the entire network of services enhances the quality of life for San Diegans living with ADOD and their caregivers, allowing them to thrive through all stages of the disease.

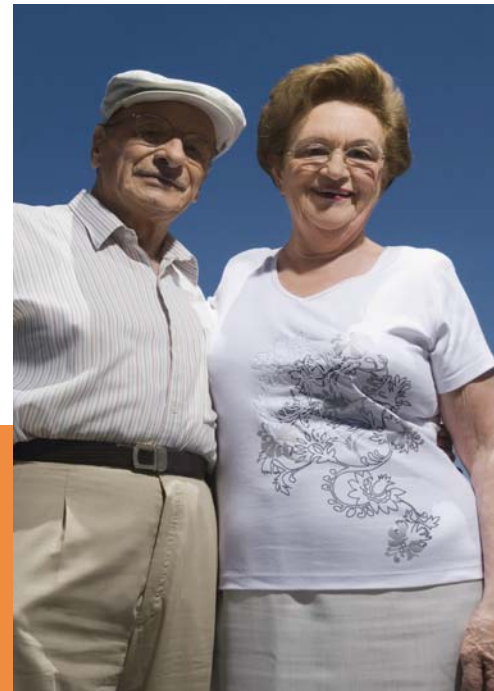


# INTRODUCTION

This report provides the following estimates for San Diego County and each of the six Health and Human Services Agency Regions for residents age 55 years and over:

- 1) The number and proportion of residents living with ADOD in 2012. These estimates represent the burden that ADOD has on San Diego County as a whole.
- 2) The number, proportion and rate of residents discharged from the emergency department or hospital with any mention of ADOD during a medical visit in 2012. The number and proportion represent the annual burden on the community. The rate represents an individual's risk and odds of an outcome.
- 3) Projections of the number and proportion of San Diegans living with ADOD for years 2020 and 2030. These projections were estimated based on what is known today about ADOD and population projections. If there is no change in the rate of ADOD, and/or if a cure or preventive therapy is not available, the projections in this report reflect what we would expect by 2020 and 2030.

In Health and Human Services Agency Region sections, information on communities, or subregional areas (SRAs), is also provided.



## Why Alzheimer's Disease and Other Dementias?

Alzheimer's disease is the most common form of dementia, but all dementias are characterized by a decline in thinking skills, memory loss, and reduced ability to perform everyday activities.<sup>3</sup> People suffering from dementia need access to similar types of resources, such as caregivers and health care professionals trained in the treatment of dementia.<sup>3</sup> Thus, for this report the definition of Alzheimer's disease was expanded to include other dementias as well.

The specific definition of ADOD was developed after consultation with local advocacy groups, subject matter experts within the County of San Diego, and review of publications and national standards for reporting ADOD. The definition includes major causes of dementia such as Alzheimer's disease, frontotemporal dementia, and vascular dementia. Other forms of dementia include senility and mild cognitive impairment. For a complete list of conditions included in the definition of ADOD, and the corresponding International Classification of Disease (ICD) 9 codes, refer to the Data Guide and Definitions section.

For more information, refer to the Data Guide and Definitions Section of this report or contact the Community Health Statistics Unit:

6255 Mission Gorge Road  
San Diego, CA 92120  
(619) 285-6429

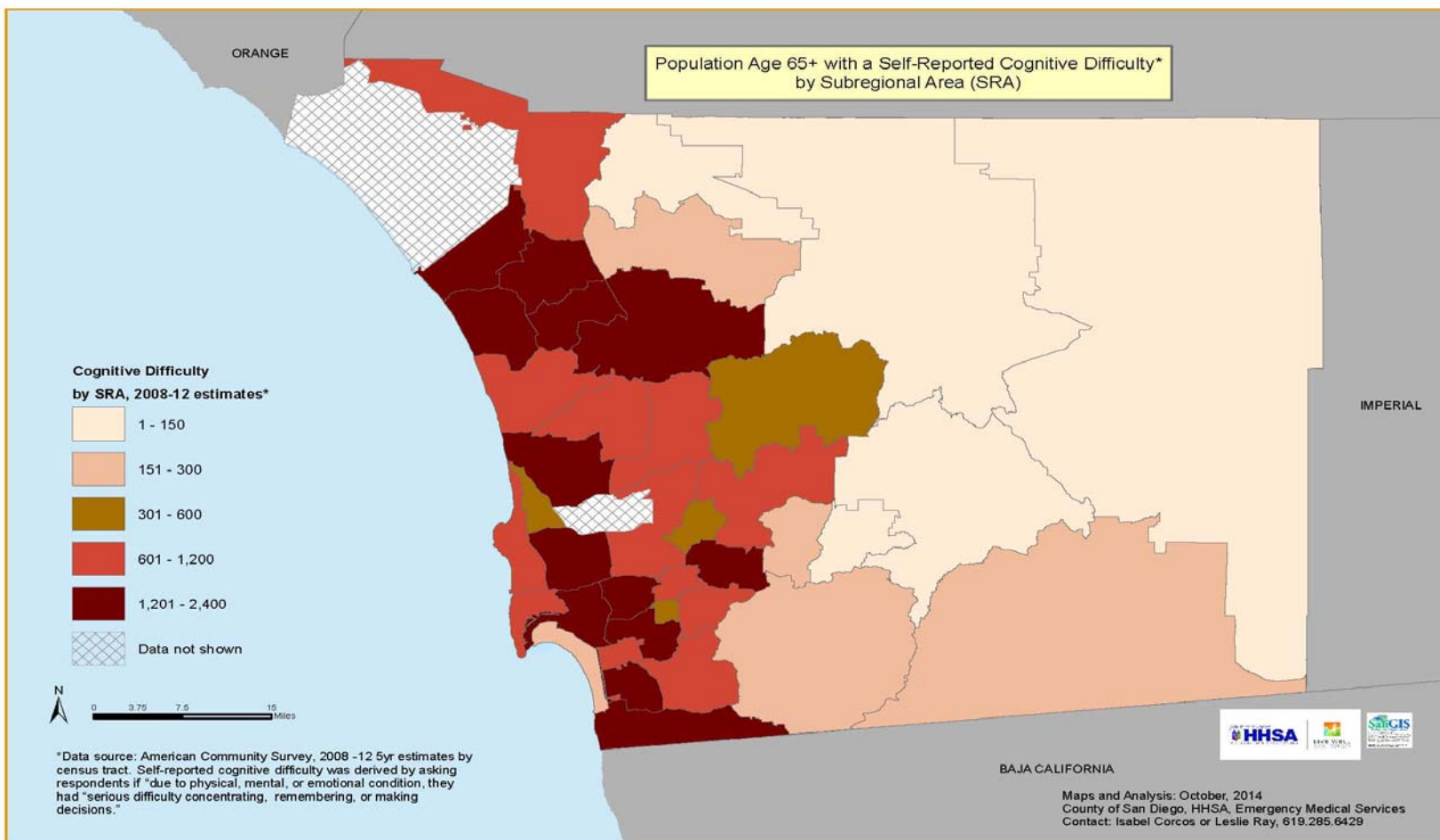
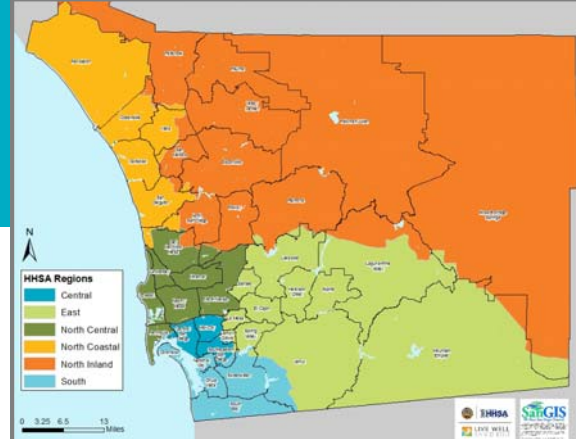
[www.sdhealthstatistics.com](http://www.sdhealthstatistics.com)

# SAN DIEGO COUNTY

San Diego County is a large region, covering more than 4,200 square miles of coastal, valley, mountain, and desert areas. In 2012, almost 3.2 million people called San Diego County home.<sup>4</sup> Nearly half of this population was white and one third was Hispanic. In 2012, there were more than 720,000 San Diego County residents over the age of 55 years, accounting for one quarter of the total population.<sup>5</sup>

Of the 375,000 San Diegans age 65 years and older, more than half were married while a quarter were living alone in 2012. The average older adult household earned \$57,300 a year and one in four older adult households had income below 200% of the Federal Poverty Level.<sup>4</sup>

In 2012, one in three older adults reported having some kind of disability, such as hearing, vision, or cognitive disabilities. One in five older adults reported having an ambulatory disability, indicating a difficulty with walking or climbing stairs.<sup>6</sup> Another commonly reported disability was with independent living, indicating difficulty doing certain activities alone, such as shopping or visiting a doctor's office.<sup>6</sup> The Health and Human Services Agency (HHSA) Central and South Regions had the highest proportions of older adults with a disability, each with nearly two in five residents age 65 years and older reporting some type of disability. These limitations, along with financial barriers, pose challenges to the medical and social care systems in San Diego County and the ability to provide care for those living with Alzheimer's disease and other dementias (ADOD).





# SAN DIEGO COUNTY

## Alzheimer's Disease and Other Dementias in San Diego County

In 2012, an estimated 60,000 San Diegans age 55 years and older were living with ADOD, accounting for 8.3% of the 55 years and older population.<sup>3, 7</sup> In other words, one in twelve San Diegans age 55 years and older had ADOD that year. One quarter of these residents were living in East Region and 17.6% were living in North Inland Region.

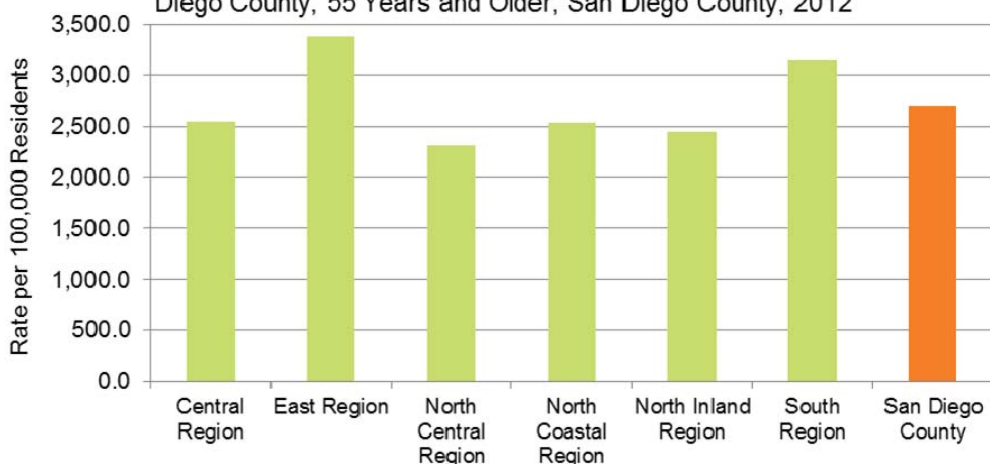
In 2012, North Inland and North Central Regions had the largest proportions of residents age 55 years and older. However, East Region had the highest proportion of residents age 55 years and older living with ADOD followed by Central Region, with 12.4% and 10.3% respectively.

**In 2012, 60,000 San Diegans age 55 years and older were living with ADOD.**

## Alzheimer's Disease and Other Dementias in the Medical System

In 2012, more than 19,000 San Diegans age 55 years and older were discharged from the emergency department (ED) or hospital with ADOD. The discharge could result from a visit to the ED or hospital due to ADOD or for another reason but ADOD was also noted. Of all the San Diegans discharged from the ED or hospital with a mention of ADOD, 20.9% lived in East Region and 18.6% lived in North Inland Region.

Rate of Residents Discharged from the Emergency Department or Hospital with Any Mention of Alzheimer's Disease and Other Dementias by Health and Human Services Agency Regions and San Diego County, 55 Years and Older, San Diego County, 2012



The rate of San Diego County residents discharged with any mention of ADOD was 2,696.4 per 100,000 residents age 55 years and older in 2012. East Region had the highest rate, with 3,386.1 residents age 55 years and older discharged from the ED or hospital with any mention of ADOD per 100,000 residents. South Region had the second highest rate of 3,152.5 residents discharged with any mention of ADOD per 100,000.

Source: County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics, Alzheimer's Disease and Other Dementias Database.



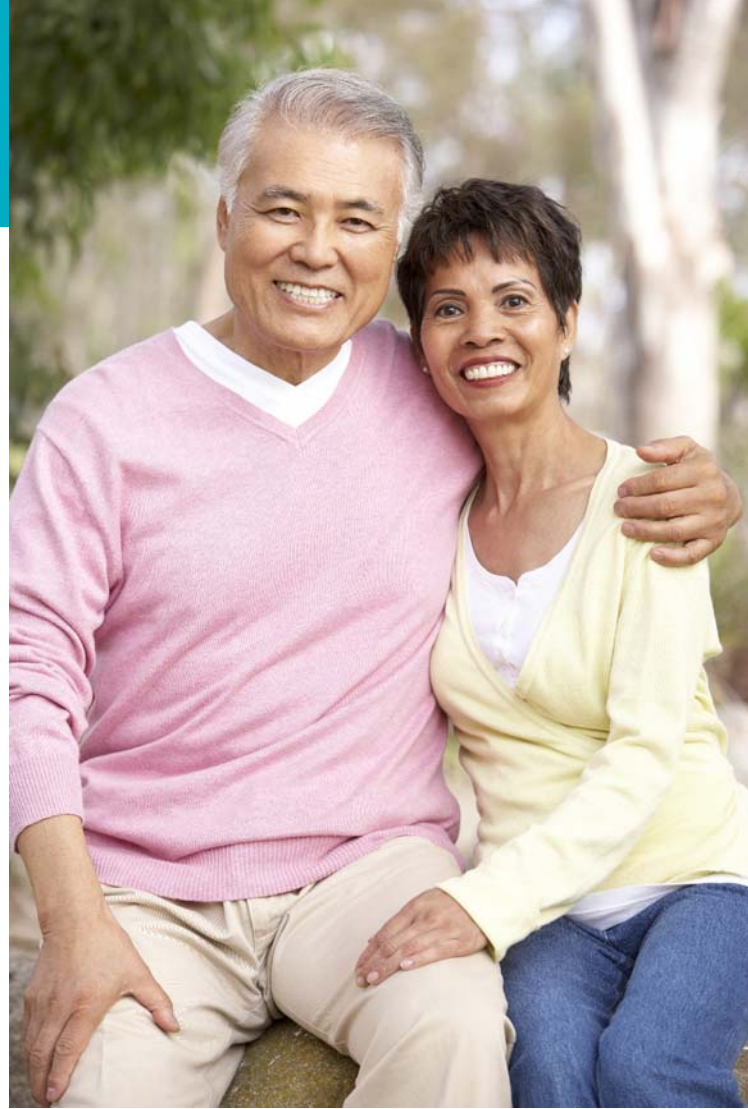
# SAN DIEGO COUNTY

## Projections of Alzheimer's Disease and Other Dementias in San Diego County

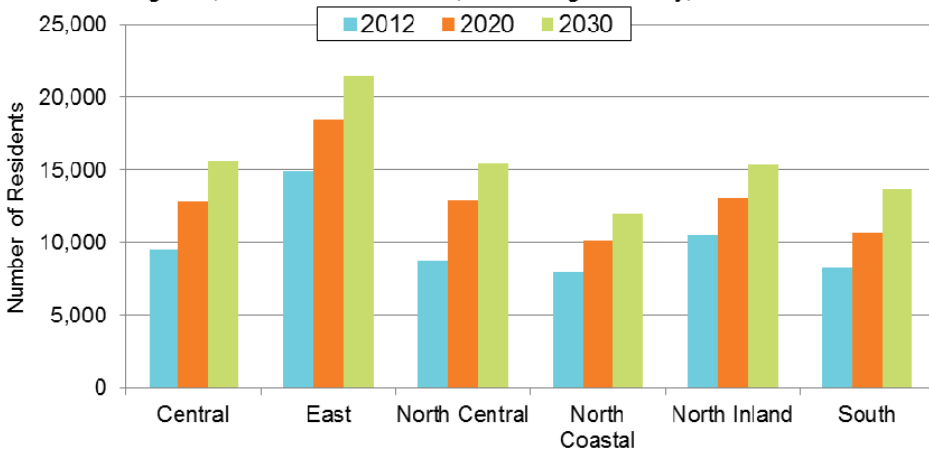
Countywide, the number of San Diegans age 55 years and older living with ADOD is expected to increase by 55.9% between 2012 and 2030, an increase from 60,000 to nearly 94,000 residents living with ADOD by 2030. The region with the largest estimated increase in residents living with ADOD is North Central, with an increase of 76.8% from 2012 to 2030. However, it is projected that 23.0% of all San Diegans age 55 years and older living with ADOD will live in East Region in 2030.

By 2030, nearly 32,000 San Diego County residents age 55 years and older are expected to be discharged from the ED or hospital with a mention of ADOD. This is a 64.3% increase between 2012 and 2030. Between 2012 and 2020, the number of residents discharged are expected to increase by 22.8%.

East Region residents will continue to account for the largest proportion of these discharges, with one in five San Diegans age 55 years and older discharged from the ED or hospital with a mention of ADOD residing in East Region.



Estimate of the Number of Residents with Alzheimer's Disease and Other Dementias by Health and Human Services Agency Regions, 55 Years and Older, San Diego County, 2012-2030



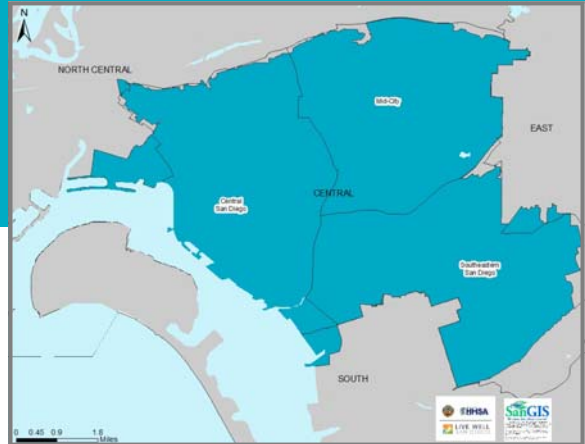
**By 2030, an estimated 94,000 residents of San Diego County will be living with ADOD.**

Source: County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics, Alzheimer's Disease and Other Dementias Database.

# CENTRAL REGION

The Health and Human Services Agency (HHSA) Central Region was home to 488,756 San Diego County residents in 2012, accounting for 15.5% of the county's population that year.<sup>4</sup> The region includes the communities of Central San Diego, Mid-City, and Southeastern San Diego. Central Region is densely populated, and is one of the most racially and ethnically diverse regions within the county. In 2012, one in eight San Diego County residents 55 years and older lived in the Central Region. Within Central Region, the 55 years and older population was evenly spread between the three communities.<sup>5</sup>

In 2012, 43.5% of Central Region residents were Hispanic and 29.0% were white. Nearly two in five Central Region households had an income below \$35,000. Further, nearly two in five adults age 65 years and older were living below 200% of the Federal Poverty Level.<sup>4</sup> Compared to other regions, residents of Central Region were more economically disadvantaged in 2012. Such financial hardships can especially affect the older population and the population living with a disability or functional difficulty. Central Region residents age 65 years and older reported having some type of disability such as hearing, ambulatory, and independent living difficulty at a greater rate than any other HHSA region.<sup>6</sup>



## Alzheimer's Disease and Other Dementias in Central Region

In 2012, an estimated 9,532 Central Region residents, age 55 years and older, had Alzheimer's disease or other dementias (ADOD), accounting for 10.3% of Central Region's 55 years and older population. Central Region had the second highest proportion of 55 years and older residents with ADOD, following East Region. In fact, the ADOD population in Central Region accounted for nearly 16.0% of all San Diego County residents living with ADOD in 2012.

**In 2012, Central Region had the second highest proportion of residents living with ADOD compared to other HHSA regions.**



# CENTRAL REGION

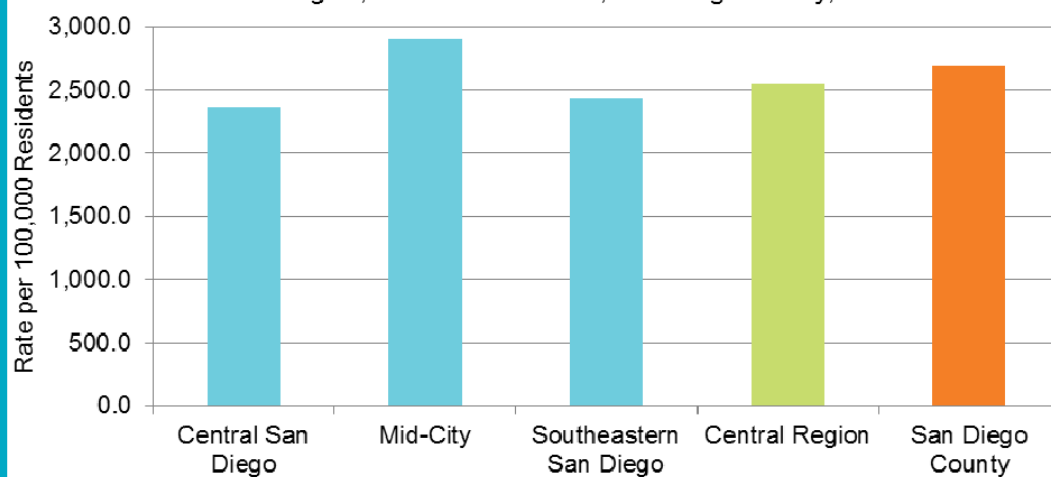
Within Central Region, Mid-City had the smallest number of residents age 55 years and older living with ADOD in 2012. However, it was the community with the largest proportion of residents age 55 years and older living with ADOD compared to the other Central Region communities, at 11.4%. This was also higher than Central Region's proportion and the county's proportion of 55 years and older residents living with ADOD overall in 2012.



## Alzheimer's Disease and Other Dementias in the Medical System

In 2012, over 2,300, or nearly one in eight, San Diego County residents discharged from the hospital or emergency department (ED) with any mention of ADOD lived in Central Region. This includes visits to the hospital or ED for ADOD, or for another reason with ADOD also noted. Within Central Region communities, the proportion of residents discharged from the hospital or ED with any mention of ADOD was similar between Central San Diego, Mid-City, and Southeastern San Diego.

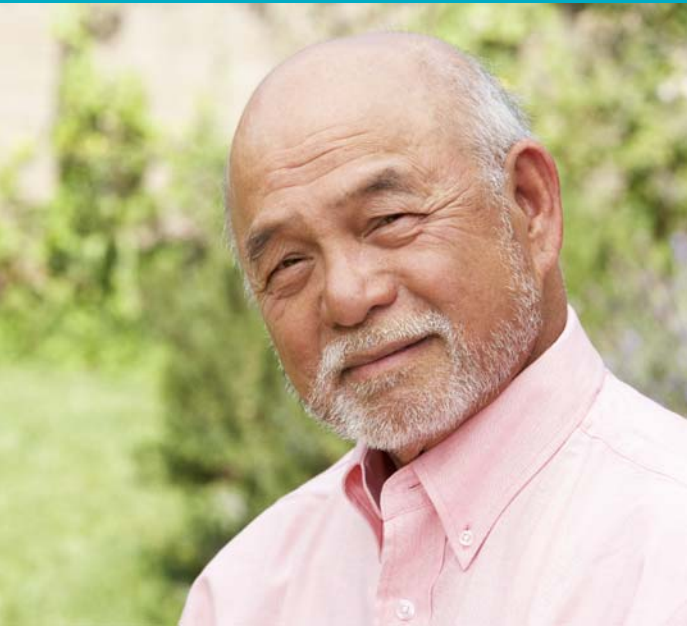
Rate of Residents Discharged from the Emergency Department or Hospital with Any Mention of Alzheimer's Disease and Other Dementias by Sub-Regional Areas of the Health and Human Services Agency  
Central Region, 55 Years and Older, San Diego County, 2012



The rate of residents discharged from the ED or hospital with any mention of ADOD among Central Region residents age 55 years and older was 2,547.4 per 100,000 in 2012, which was less than the county rate of 2,696.4 per 100,000. However, Mid-City had a higher rate of residents discharged with any mention of ADOD among residents age 55 years and older of 2,898.0 per 100,000 in 2012.

Source: County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics, Alzheimer's Disease and Other Dementias Database.

# CENTRAL REGION



## Projections of Alzheimer's Disease and Other Dementias in Central Region

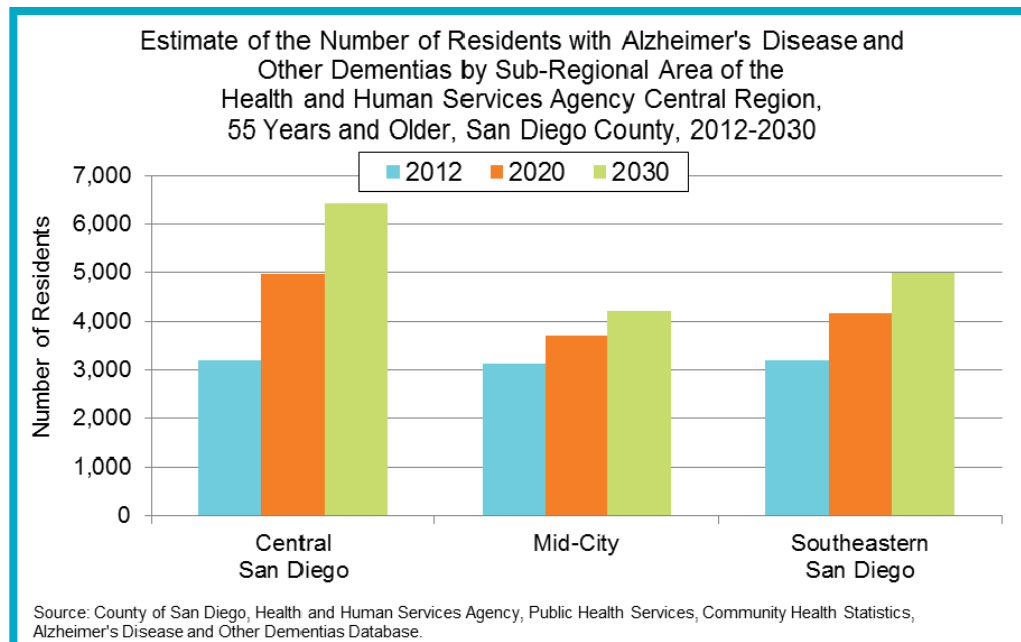
The 55 years and older population of Central Region is projected to grow to nearly 126,000 residents by 2020 and 156,000 residents by 2030. Although the proportion of Central Region residents living with ADOD will remain around 10.0%, the number of those living with ADOD will grow significantly. By 2030, there will be nearly 16,000 Central Region residents, 55 years and older, living with ADOD, a 64.0% increase from 2012.

Compared to other regions in the county, Central Region is projected to have the second highest proportion of residents with ADOD by 2030, following East Region. By

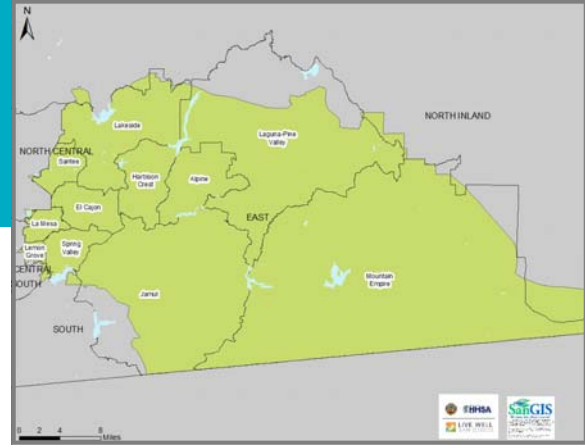
2030, the number of Central Region residents with ADOD will account for 16.7% of the county's total population living with ADOD.

Among Central Region communities, Central San Diego is projected to have the greatest proportion of residents age 55 years and older by 2030. In fact, the 55 years and older population of Central San Diego will double by 2030. Similarly, Central San Diego is expected to have the greatest number of residents 55 years and older with ADOD by 2030, compared to other Central Region communities. In both 2020 and 2030, approximately 40.0% of Central Region residents ages 55 years and older with ADOD will be living in the community of Central San Diego.

The proportion of San Diego County residents age 55 years and older discharged from the ED or hospital with any mention of ADOD living in Central Region will remain similar to 2012, at 13.1% in 2030. Among Central Region communities, by 2030 Central San Diego will account for the greatest percent of ED or hospital discharged patients, 55 years and older with any mention of ADOD. This proportion will decrease slightly for Mid-City and Southeastern San Diego.



# EAST REGION



The Health and Human Services Agency (HHS) East Region of San Diego County is a large area with some densely populated communities, such as El Cajon and Spring Valley, and some rural communities, such as Alpine and Mountain Empire. In 2012, one in seven San Diego County residents age 55 years and older lived in East Region.<sup>5</sup> Within East Region, one quarter of the 55 years and over population lived in El Cajon and another 16.8% lived in Spring Valley.<sup>5</sup>

In 2012, three in five East Region residents were white and one in four were Hispanic. Almost three in ten East Region households had an income of less than \$35,000 and one quarter of the 65 years and older population were living below 200% of the Federal Poverty Level.<sup>4</sup> In 2012, more than one in three East Region residents age 65 years and older reported having some type of disability, including ambulatory, self-care, hearing, and cognitive difficulties.<sup>6</sup> These residents face many of the issues common with living in a rural area, such as limited transportation and access to medical care. These limitations can pose an extra challenge to the older population and the population living with a disability or specific difficulty.

## Alzheimer's Disease and Other Dementias in East Region

In 2012, of the nearly 120,000 East Region residents age 55 years and older, an estimated 12.4% had Alzheimer's disease and other dementias (ADOD). East Region had the largest proportion of 55 years and older residents with ADOD, and East Region residents with ADOD accounted for one quarter of all San Diego County residents living with ADOD in 2012. Within East Region, the communities of Lemon Grove and La Mesa had the highest proportion of residents age 55 years and older living with ADOD, with 15.5% and 14.1% respectively.

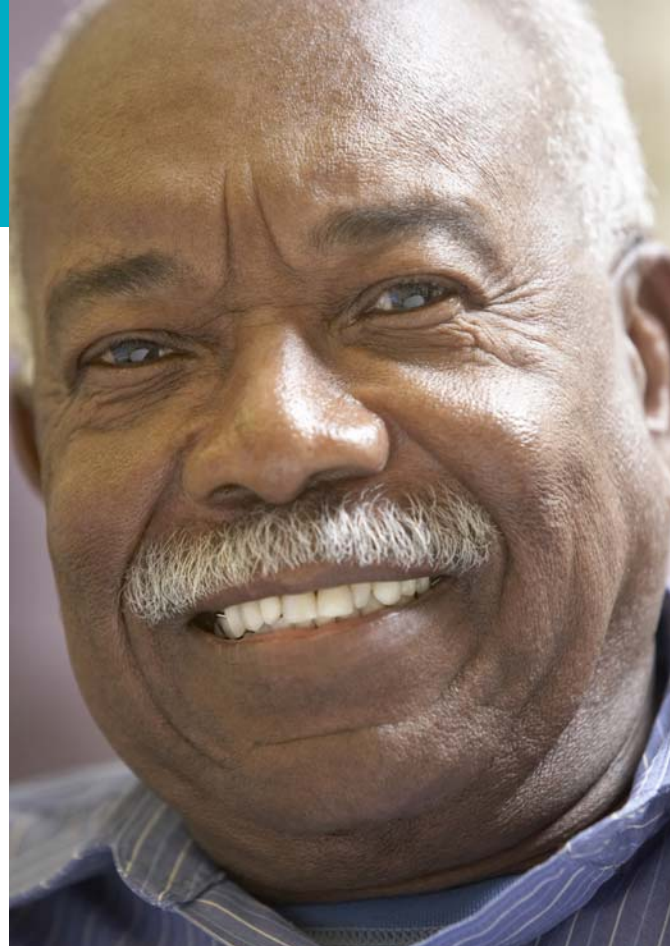
Among East Region's 55 years and older population living with ADOD, one in four residents lived in El Cajon in 2012. Another 15.3% lived in La Mesa. The large population of residents living with ADOD in East Region poses a challenge to both the health care and life care systems and networks in the area.



**One in four East Region residents living with ADOD lived in El Cajon in 2012.**



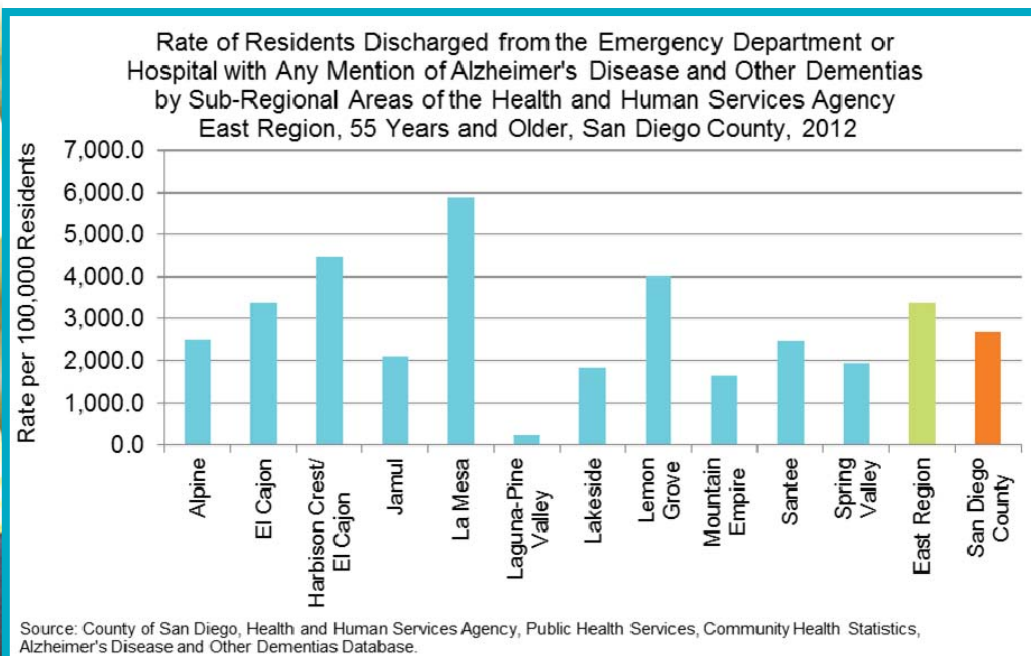
# EAST REGION



## Alzheimer's Disease and Other Dementias in the Medical System

In 2012, one in five San Diego County residents age 55 years and older discharged from the hospital or emergency department (ED) with a mention of ADOD lived in the East Region. This includes visits to the hospital or ED for ADOD, or for another reason with ADOD also noted. In a single year, this accounted for more than 4,000 people. More people age 55 years and older discharged from the hospital or ED with a mention of ADOD lived in East Region than in any other region. One fourth of the East Region residents discharged from the hospital or ED with a mention of ADOD lived in El Cajon and another 23.6% lived in La Mesa in 2012.

In 2012, the rate of East Region residents age 55 years and older with a mention of ADOD in their discharge from the ED or hospital was 3,386.1 per 100,000, which was higher than the county overall. The rate of discharge from the ED or hospital with a mention of ADOD among residents age 55 years and older was highest in La Mesa, which was higher than East Region's and the countywide rates.



# EAST REGION

## Projections of Alzheimer's Disease and Other Dementias in East Region

The 55 years and older population of East Region is projected to grow to nearly 150,000 residents by 2020 and 180,000 residents by 2030. The estimated proportion of residents living with ADOD among this age group will remain relatively constant in 2020 and 2030, at about 12.0%. This means that by 2030, there will be nearly 21,500 East Region residents age 55 years and older living with ADOD. This is a 44.6% increase in the number of East Region residents age 55 years and older living with ADOD from 2012.

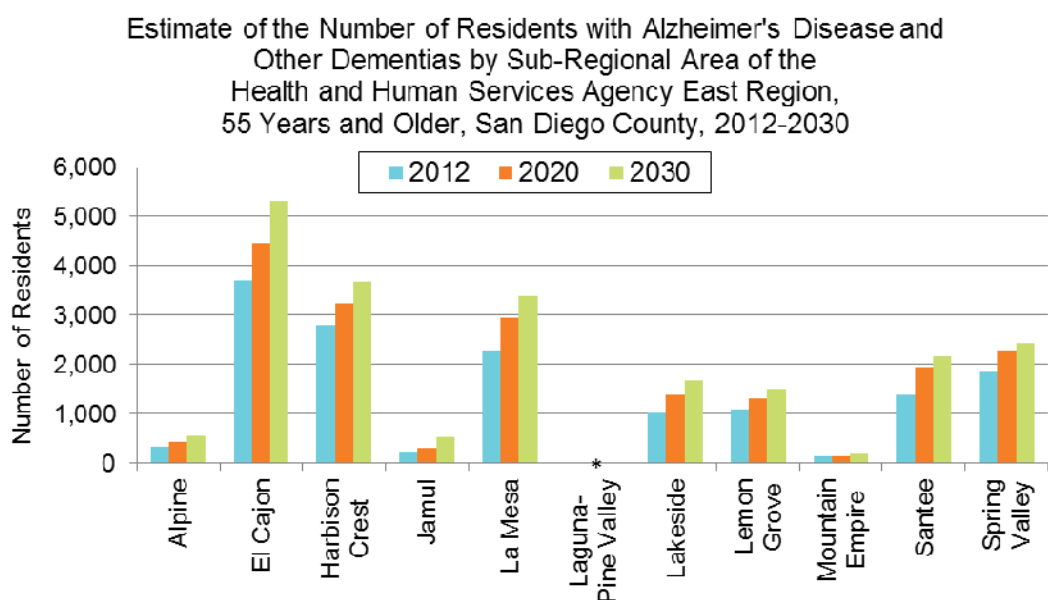
In 2030, East Region will remain the area of the county with the largest proportion of residents with ADOD. Similarly, East Region's 55 years and older ADOD population will continue to account for nearly one fourth of the entire 55 years and older ADOD population in San Diego County.

In 2020 and 2030, one quarter of East Region residents age 55 years and older with ADOD will still be living in El Cajon. Similar to East Region, the number of residents age 55 years and older with ADOD living in El Cajon will increase by 43.8% between 2012 and 2030. The community of Jamul will see the largest growth in the number of residents with ADOD age 55 years and older, with an increase of 151.6% from 2012 to 2030.

The proportion of San Diego County residents age 55 years and older discharged from the ED or hospital with any mention of ADOD living in East Region will remain similar to 2012, at 20.8% in 2030.



**In 2030, East Region will have the largest proportion of residents living with ADOD in San Diego County.**



\*Projections not reported for <20 cases. Source: County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics, Alzheimer's Disease and Other Dementias Database.



# NORTH CENTRAL REGION

The Health and Human Services Agency (HHSA) North Central Region of San Diego County consists of the Coastal, Del Mar-Mira Mesa, Elliott-Navajo, Kearny Mesa, Miramar, Peninsula, and University communities. In 2012, there were over 615,000 residents within North Central Region, accounting for 19.6% of the county's population. Similarly, 19.7% of the county's 55 years and older population lived in the North Central Region in 2012.<sup>5</sup> Compared to other North Central Region communities, Kearny Mesa and Del Mar-Mira Mesa had the greatest 55 years and older populations at 36,000 and 35,000 residents, respectively.<sup>5</sup>



Although the majority of North Central residents were white, nearly one in five were Asian or Pacific Islander and an additional one in seven were Hispanic.<sup>4</sup> Compared to the county overall, North Central Region residents generally had higher household incomes. In 2012, over one third of North Central Region households had an income of \$100,000 or greater.<sup>4</sup> Almost one in five North Central residents age 65 years and older were living below the 200% of the Federal Poverty Level in 2012, a slightly lower proportion compared to the county overall.<sup>4</sup> North Central Region residents age 65 years and older reported having a disability at a lower rate than any other region. However, three in ten North Central older adults reported having some type of disability, including ambulatory and independent living difficulties, such as difficulty walking up stairs or doing errands alone.<sup>6</sup> Despite higher incomes and lower rates of disabilities, the medical and caregiving network face a challenge providing care to the older population living with Alzheimer's disease and other dementias (ADOD).

## Alzheimer's Disease and Other Dementias in North Central Region

In 2012, there were nearly 9,000 North Central Region residents ages 55 years and older with ADOD, accounting for 6.1% of the entire 55 years and older age group in the region. North Central Region residents represented 14.6% of all San Diego County residents living with ADOD.

Within North Central Region, the communities of Kearny Mesa and Peninsula had the highest proportion of residents age 55 years and older living with ADOD, with 9.3% and 6.3% respectively. Among North Central Region ADOD population, nearly two in five residents lived in Kearny Mesa in 2012. An additional 19.0% lived in Del Mar-Mira Mesa.

**Compared to other HHSA regions,  
North Central Region had the second highest  
population of residents age 55 years and older,  
yet the lowest proportion of those living  
with ADOD in 2012.**

# NORTH CENTRAL REGION

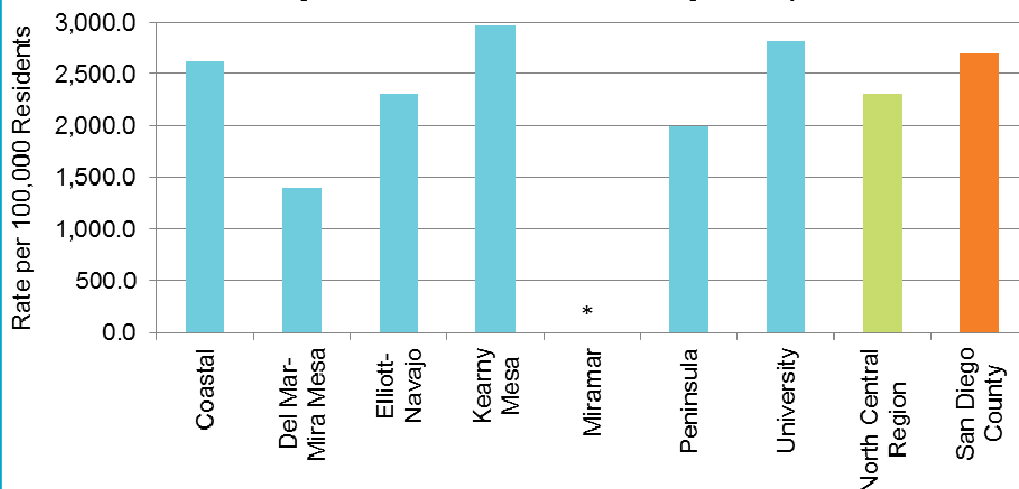
## Alzheimer's Disease and Other Dementias in the Medical System

In 2012, approximately 3,300 North Central Region residents were discharged from the emergency department (ED) or hospital with any mention of ADOD, accounting for 16.9% of the county's ED or hospital discharges among residents age 55 years and older with any mention of ADOD. This includes visits to the hospital or ED for ADOD, or for another reason with ADOD also noted during the visit.

Among North Central Region communities, Kearny Mesa had the greatest number of hospital or ED discharges with any mention of ADOD. In fact, one in three North Central Region residents discharged from the hospital or ED with any mention of ADOD lived in Kearny Mesa in 2012.

In 2012, North Central Region had the lowest rate of discharge among residents age 55 years and older with any mention of ADOD compared to other HHSA regions, with 2,307.4 per 100,000. However, the communities of Kearny Mesa and University had higher rates than the county overall, with 2,977.0 per 100,000 and 2,812.1 per 100,000, respectively.

Rate of Residents Discharged from the Emergency Department or Hospital with Mention of Alzheimer's Disease and Other Dementias by Sub-Regional Areas of the Health and Human Services Agency North Central Region, 55 Years and Older, San Diego County, 2012



\*Rate was not calculated for <5 cases. Source: County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics, Alzheimer's Disease and Other Dementias Database.



# NORTH CENTRAL REGION



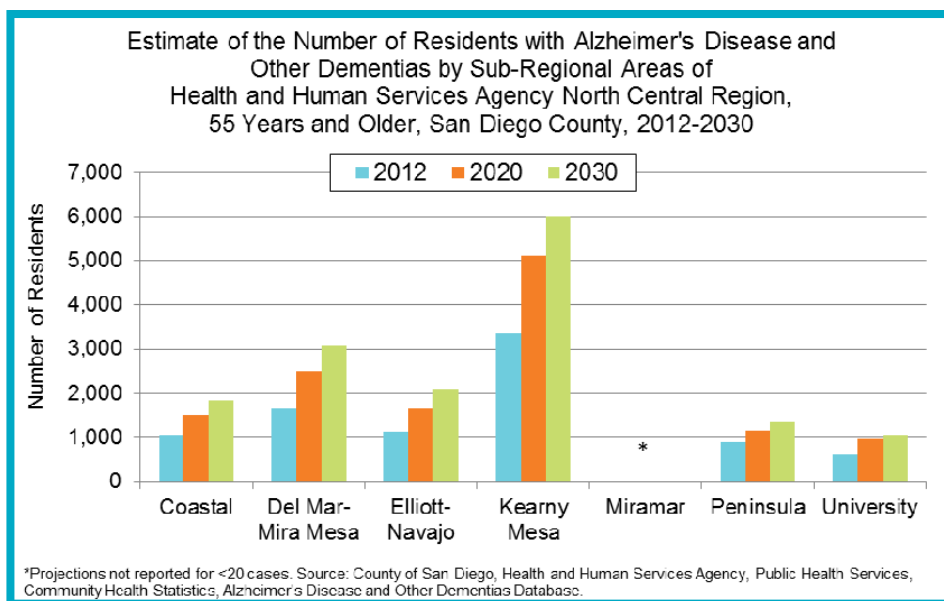
## Projections of Alzheimer's Disease and Other Dementias in North Central Region

By 2020 and 2030, North Central Region will have the greatest proportion of 55 years and older residents compared to the other HHSA regions in the county. The 55 years and older population of North Central Region is projected to grow to over 209,000 residents by 2020 and 246,500 residents by 2030. Although the proportion of North Central Region residents living

with ADOD will remain similar to 2012, the number of those living with ADOD will grow significantly. By 2030, there will be nearly 15,500 North Central Region residents, 55 years and older, living with ADOD, a 76.8% increase from 2012. By 2030, of the 246,500 North Central Region residents aged 55 years and older, 6.3% are expected to have ADOD. Although this is lower than the estimated proportion for the county, North Central Region residents with ADOD will account for 16.5% of the county's total ADOD population.

From 2012 to 2030, Kearny Mesa will remain the community with the highest proportion of 55 years and older residents compared to other North Central Region communities. Similarly, Kearny Mesa is expected to have the highest proportion of 55 years and older residents living with ADOD by 2030 among North Central Region communities. In fact, in 2030 an estimated 38.9% of North Central Region residents age 55 years and older with ADOD will be living in Kearny Mesa.

By 2030, there will be a slight increase in the proportion of San Diego County residents, 55 years and older, discharged from the ED or hospital with any mention of ADOD living in North Central Region, from 16.9% in 2012 to 18.6% in 2030. In North Central Region, Kearny Mesa will account for the greatest percentage of ED or hospital discharged patients 55 years and older with any mention of ADOD by 2030. This proportion will decrease slightly for Coastal and University and increase slightly for Del Mar-Mira Mesa within North Central San Diego.





# NORTH COASTAL REGION

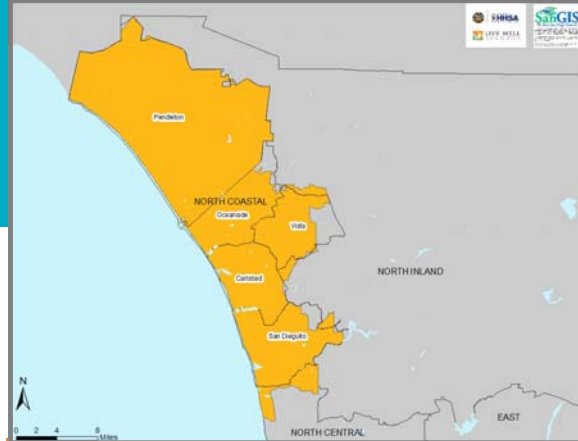
The Health and Human Services Agency (HHS) North Coastal Region of San Diego County consists of both urban and suburban areas and includes the communities of Carlsbad, Oceanside, Pendleton, San Dieguito, and Vista. In 2012, one in six San Diego County residents lived in North Coastal Region.<sup>5</sup> Similarly, one in six San Diego County residents age 55 years or older lived in North Coastal Region. Carlsbad and Oceanside had the highest proportion of residents age 55 years and older, with 28.4% and 30.0% respectively.<sup>5</sup>

In 2012, about three in five North Coastal residents were white and an additional one third were Hispanic.<sup>4</sup> A quarter of households in North Coastal Region had an income of less than \$35,000, whereas about one third of households had an income of \$100,000 or greater.<sup>4</sup> One out of five adults age 65 years or older were living below 200% of the Federal Poverty Level, slightly lower than the overall proportion for the county.<sup>4</sup> In 2012, three in ten North Coastal older adults reported having some kind of disability, including 17.9% of the older adult population reported having difficulty walking or climbing stairs.<sup>6</sup> Overall, North Coastal Region consists of both wealthy communities and communities of varying degrees of poverty. This may result in differences in health status among communities in the region.

## Alzheimer's Disease and Other Dementias in North Coastal Region

Of the 121,000 North Coastal residents age 55 years and older, nearly 8,000 had Alzheimer's disease and other dementias (ADOD) in 2012. Further, the ADOD population in North Coastal Region accounted for 13.3% of all San Diego County residents living with ADOD in 2012.

Within North Coastal Region, Vista had the highest proportion of residents 55 years and older living with ADOD in 2012. Specifically, 11.0% of Vista's 55 years and older population was living with ADOD. Similarly, Vista had the second largest number of residents living with ADOD in 2012, following Oceanside. Together, Oceanside and Vista accounted for 60.7% of North Coastal Region's ADOD population in 2012.



**Together,  
Oceanside and  
Vista accounted  
for 61% of North  
Coastal Region's  
ADOD population  
in 2012.**



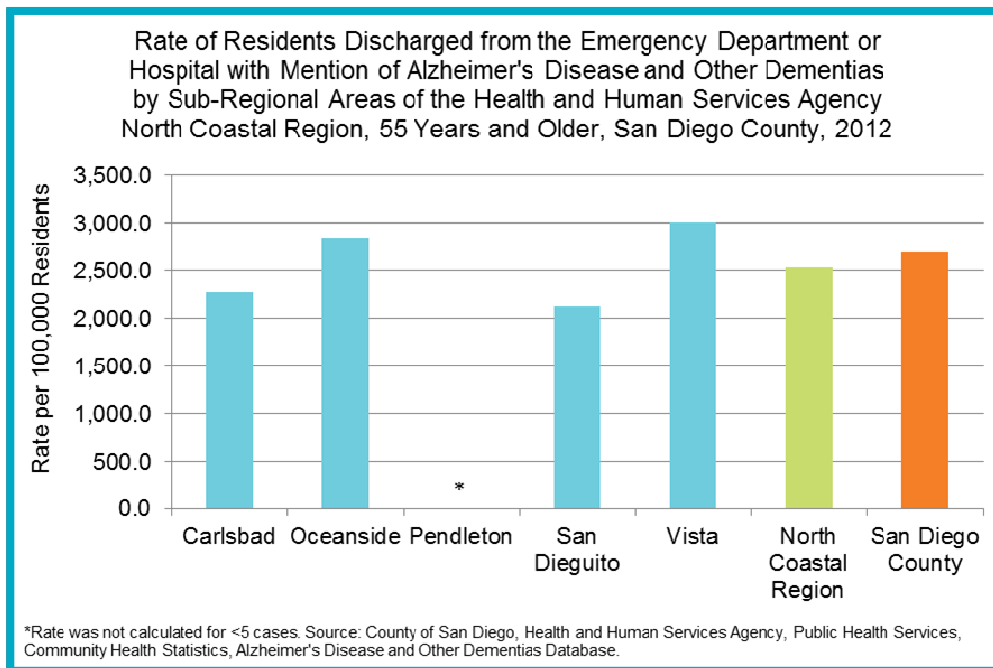
# NORTH COASTAL REGION

## Alzheimer's Disease and Other Dementias in the Medical System

Approximately 3,600 North Coastal Region residents age 55 years and older were discharged from the emergency department (ED) or hospital with any mention of ADOD in 2012. This accounted for nearly 16.0% of the county's 55 years and older residents discharged from the ED or hospital with any mention of ADOD. This includes visits to the hospital or ED for ADOD or for another reason with ADOD also noted.

In 2012, Oceanside had the greatest number of ED or hospital discharges among residents age 55 years and older with any mention of ADOD, followed by Carlsbad. One in three North Coastal Region residents discharged from the hospital or ED with any mention of ADOD lived in Oceanside, and an additional 25.5% lived in Carlsbad.

Overall, North Coastal Region had a lower rate of discharge from the ED or hospital with any mention of ADOD among its 55 years and older residents compared to the county. Specifically, North Coastal Region's rate was 2,533.5 per 100,000 compared to 2696.4 per 100,000 for the county. However, in 2012, Vista and Oceanside had higher rates than the county overall, with 3,011.0 per 100,000 and 2,844.3 per 100,000, respectively.



**In 2012, Vista and Oceanside had higher rates of discharges from the ED or hospital with any mention of ADOD than the county overall.**

## Projections of Alzheimer's Disease and Other Dementias in North Coastal Region

The 55 years and older population of North Coastal Region is projected to grow to 155,200 residents by 2020 and 181,200 residents by 2030. Although the proportion of North Coastal Region residents living with ADOD will remain around 6.5%, the number of those living with ADOD will grow significantly.

# NORTH COASTAL REGION



**The number of residents living with ADOD in North Coastal Region will increase by 50.3% between 2012 and 2030.**

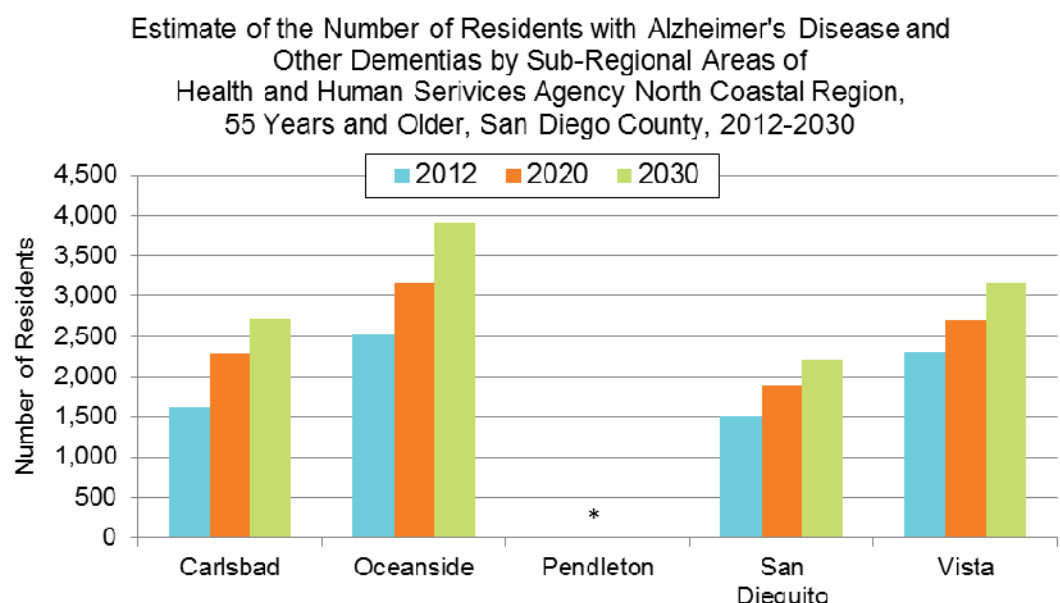
By 2030, there will be an estimated 12,000 North Coastal Region residents, 55 years and older, living with ADOD, a 50.3% increase from 2012. By 2030, the projected 12,000 North Coastal residents living with ADOD will account for 12.8% of the county's total population living with ADOD.

Within North Coastal Region, Carlsbad is expected to have the greatest number of 55 years and older residents by 2030. Similarly, Carlsbad is expected to have the greatest increase in its ADOD population, with an increase of 67.1% from 2012 to 2030. Oceanside is expected to continue to account for one third of the number of 55 years and older residents living with ADOD in North Coastal Region by 2020 and 2030.

From 2012 to 2030, there will be a slight decrease in the proportion of San Diego County residents discharge from

the ED or hospital with any mention of ADOD age 55 years and older living in North Coastal Region.

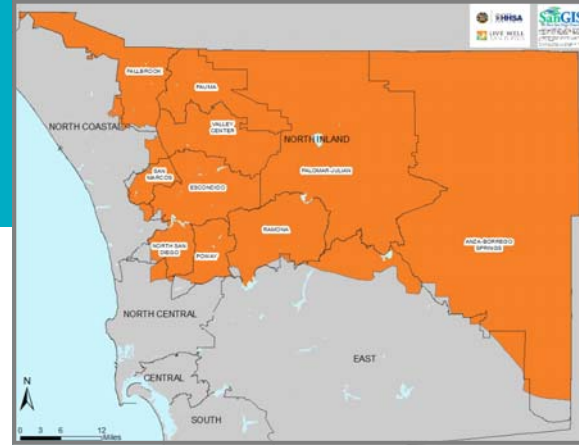
However, the number of North Coastal residents discharged from the hospital or ED with any mention of ADOD is expected to increase, from approximately 3,000 in 2012 to 4,500 in 2030. Oceanside residents will account for approximately 37.8% of those discharges in 2030, while Carlsbad will account for an additional 31.2%.



\*Projections not reported for <20 cases. Source: County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics, Alzheimer's Disease and Other Dementias Database.



# NORTH INLAND REGION



The Health and Human Services Agency (HHSA) North Inland Region of San Diego County is the largest geographical region in the county, consisting of urban, suburban, rural, and remote areas. It includes the communities of Anza-Borrego Springs, Escondido, Fallbrook, North San Diego, Palomar-Julian, Pauma, Poway, Ramona, San Marcos, and Valley Center. In 2012, there were nearly 582,000 North Inland Region residents, accounting for 18.5% of the county's population that year.<sup>5</sup> One in five of the county's 55 years and older residents lived in North Inland Region in 2012. Within North Inland Region, Escondido and North San Diego had the greatest 55 years and older populations at about 36,000 and 27,000 residents, respectively.<sup>5</sup>

In 2012, about half of North Inland residents were white, nearly one in ten were Asian or Pacific Islander and one third were Hispanic.<sup>4</sup> Compared to the county overall, North Inland Region residents had slightly higher household incomes. In 2012, almost one third of North Inland Region households had an income of \$100,000 or greater.<sup>4</sup> That same year, 21.9% of North Inland residents 65 years and older were living below 200% of the Federal Poverty Level, a slightly lower proportion compared to the county overall.<sup>4</sup> In the same year, one in three North Inland older adults reported having some type of disability, including 19.9% reporting a difficulty with walking or going up stairs.<sup>6</sup>



## Alzheimer's Disease and Other Dementias in North Inland Region

Compared to the other HHSA regions, North Inland Region had the second highest number of residents 55 years and older living with Alzheimer's disease and other dementias (ADOD) in 2012, with approximately 10,500 North Inland Region residents living with ADOD that year. In fact, about one in six San Diego County residents living with ADOD lived in North Inland Region in 2012.

Within North Inland Region, the communities of Escondido, Ramona, and North San Diego had the highest proportion of residents, 55 years and older, living with ADOD, with 10.6%, 8.4%, and 8.0%, respectively. Among North Inland Region's ADOD population, 35.8% of residents lived in Escondido in 2012. An additional one in five North Inland residents living with ADOD lived in North San Diego.

**In 2012, one in six San Diego County residents living with ADOD lived in North Inland Region.**



# NORTH INLAND REGION

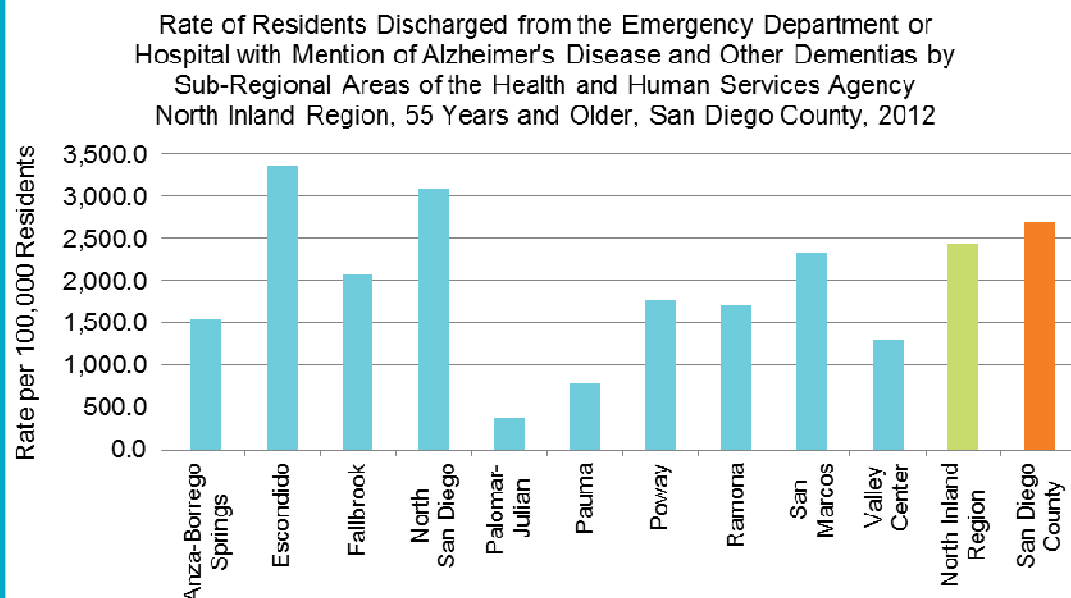


## Alzheimer's Disease and Other Dementias in the Medical System

In 2012, almost 19.0% of San Diego County residents age 55 years and older, discharged from the hospital or emergency department (ED) with any mention of ADOD lived in North Inland Region. This includes visits to the hospital or ED for ADOD, or for another reason but ADOD was also noted. In a single year, this accounted for 3,619 people. Within North Inland Region, one in three residents age 55 years and older discharged from the ED or hospital with any mention of ADOD lived in Escondido. An additional 23.4% of North Inland residents discharged from the ED or hospital with any mention of ADOD lived in North San Diego.

In 2012, the rate of North Inland residents age 55 years and older discharged with any mention of ADOD was 2441.5 per 100,000, which was less than the countywide rate of 2692.4 per 100,000. The communities of Escondido and North San Diego had higher rates of discharge from the ED or hospital with any mention of ADOD among residents 55 years and older compared to North Inland Region and the county overall, with rates of 3,369.3 per 100,000 and 3,096.9 per 100,000, respectively.

**In 2012, one in three North Inland Region residents discharged from the ED or hospital with any mention of ADOD lived in Escondido.**



Source: County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics, Alzheimer's Disease and Other Dementias Database.

# NORTH INLAND REGION

## Projections of Alzheimer's Disease and Other Dementias in North Inland Region

The 55 years and older population of North Inland Region is projected to grow to nearly 184,000 residents by 2020 and 217,000 residents by 2030. The estimated proportion of residents living with ADOD among this age group will remain relatively constant, at about 7.1%. By 2030, there will be more than 15,000 North Inland Region residents age 55 years and older living with ADOD. This is a 45.9% increase in the North Inland ADOD population from 2012.

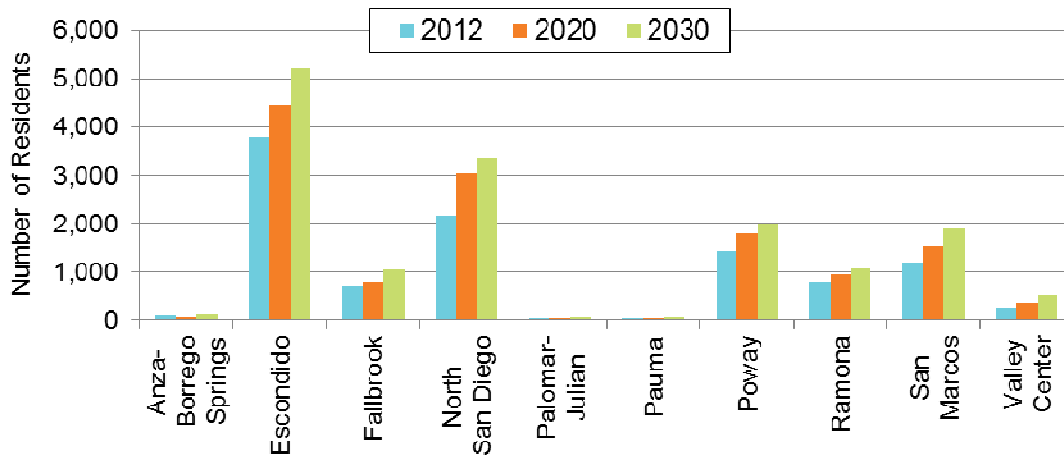


By 2030, of the 217,000 North Inland Region residents age 55 years and older, 15,400 are expected

to have ADOD. This will account for 16.4% of the county's 55 years and older ADOD population that year.

Within North Inland Region, Escondido and North San Diego will remain the communities with the greatest number of 55 years and older residents from 2012 to 2030. Further, Escondido and North San Diego are expected to have the highest proportions of 55 years and older residents living with ADOD

Estimate of the Number of Residents with Alzheimer's Disease and Other Dementias by Sub-Regional Areas of Health and Human Services Agency North Inland Region, 55 Years and Older, San Diego County, 2012-2030



Source: County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics, Alzheimer's Disease and Other Dementias Database.

by 2030. In 2030, an estimated 33.9% of North Inland Region residents age 55 years and older with ADOD will be living in Escondido and an additional 22.0% will be living in North San Diego.

The proportion of 55 years and older San Diegans discharged from the ED or hospital with any mention of ADOD living in the North Inland Region will continue to hover around 18.0% in 2020 and 2030. However, there will be a projected 38.2% increase in the number of residents discharged with any mention of ADOD among residents 55 years and older within the region overall. Compared to other North Inland communities, Escondido will have the greatest percentage of ED or hospital discharged patients, 55 years and older with any mention of ADOD, by 2030. However, Valley Center will experience the greatest increase in the number of those discharged patients, with a 62.1% increase from 2012 to 2030.



# SOUTH REGION

The Health and Human Services Agency (HHSA) South Region of San Diego County is made up of five communities: Chula Vista, Coronado, National City, South Bay and Sweetwater. In 2012, the population was over 473,000, accounting for 15.1% of the county's total population.<sup>5</sup> The 55 years and older population was over 96,000 residents in 2012, which was 13.4% of the total South Region population.<sup>5</sup> Three in five South Region residents were Hispanic and 20.0% were white.<sup>4</sup>



Among the 65 years and older population, half were living in a married couple household and almost 20.0% were living alone.<sup>4</sup> Nearly one third of the older adult households were living under 200% of the Federal Poverty Level.<sup>4</sup> In 2012, 38.0% of South Region's older adult population reported having some kind of disability, including 26.1% reporting an ambulatory difficulty and 20.6% having difficulty with independent living.<sup>6</sup>

## Alzheimer's Disease and Other Dementias in South Region

In 2012, there were approximately 8,350 South Region residents age 55 years and older with Alzheimer's disease and other dementias (ADOD), accounting for 13.9% of the county's ADOD 55 years and older population. Of this population, 34.9% lived in Chula Vista, one quarter lived in National City and one quarter lived in South Bay.

Of the 96,400 South Region residents age 55 years and older, 8.7% were living with ADOD in 2012. National City had the largest proportion of residents age 55 years and older with ADOD with 19.3%, followed by Chula Vista with 11.0%.



# SOUTH REGION

## Alzheimer's Disease and Other Dementias in the Medical System

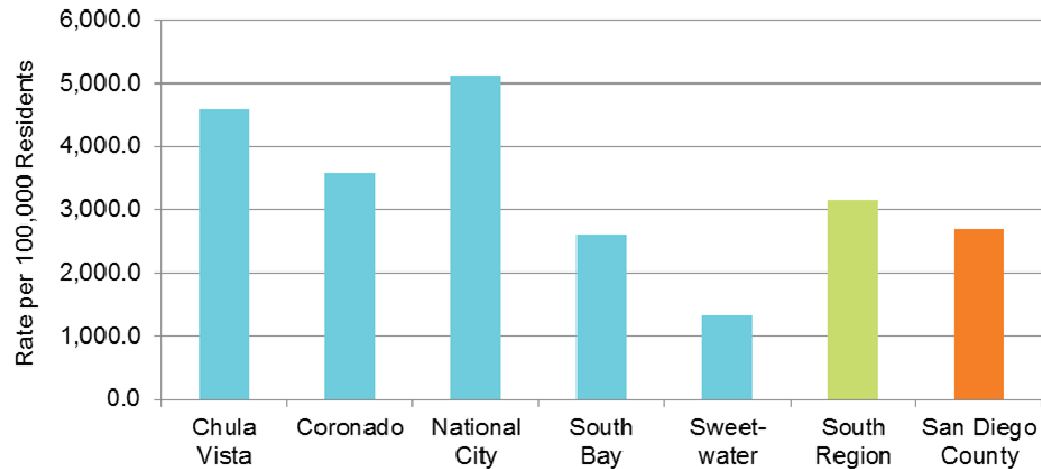
In 2012, there were more than 3,000 South Region residents age 55 years and older discharged from the emergency department (ED) or hospital with any mention of ADOD.

This accounted for 15.7% of all residents discharged with any mention of ADOD from the ED or hospital countywide. Of these discharges, four in ten

were Chula Vista residents and nearly one quarter were to residents living in South Bay. Chula Vista had the largest number of residents age 55 years and older discharged from the ED or hospital with any mention of ADOD compared to all communities in San Diego County in 2012.

The rate of South Region residents age 55 years and older discharged from the ED or hospital discharges with any mention of ADOD was 3,152.5 per 100,000. This rate was higher than the overall county rate of 2,696.4 per 100,000. Three of the five South Region communities also had a higher rate than the county. These were National City, Chula Vista, and Coronado, with rates of 5,112.6 per 100,000, 4,597.5 per 100,000 and 3,577.4 per 100,000 respectively.

Rate of Residents Discharged from the Emergency Department or Hospital with Any Mention of Alzheimer's Disease and Other Dementias by Sub-Regional Areas of the Health and Human Services Agency South Region, 55 Years and Older, San Diego County, 2012



Source: County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics, Alzheimer's Disease and Other Dementias Database.

**The community of Chula Vista had the largest number of residents age 55 years and older discharged from the ED or hospital with any mention of ADOD compared to all other areas of San Diego County in 2012.**





# SOUTH REGION

## Projections of Alzheimer's Disease and Other Dementias in South Region

By 2030, the 55 years and older population living in South Region will increase to more than 167,800 residents, of which one third will be living in Sweetwater and three in ten will be living in South Bay. The proportion of these residents with ADOD will remain around 8.0%, similar to the county overall. However, the number of residents living with ADOD in South Region is projected to increase by nearly two thirds between 2012 and 2030.



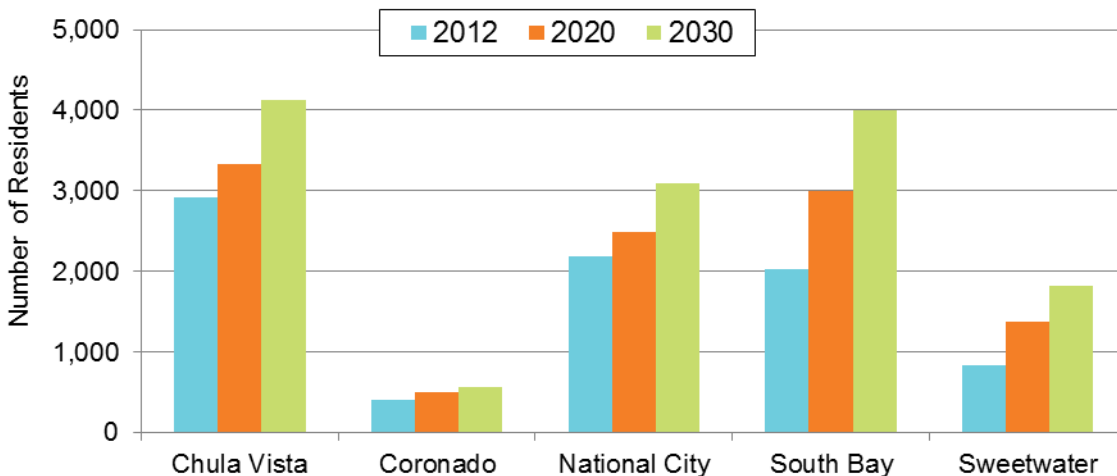
South Region's 55 years and older population living with ADOD is projected to increase from 8,350 residents in 2012 to nearly 10,700 residents by 2020, and 13,600 residents by 2030. The proportion of these residents living in Chula Vista will decline from 34.9% in 2012 to 30.4% by 2030, while the proportion living in South Bay will increase from 24.2% to 29.4% by 2030.

**By 2030, 60.0% of all South Region residents age 55 years and older living with ADOD will live in Chula Vista and South Bay.**

Of the residents age 55 years and older discharged from the ED or hospital with any mention of ADOD, the proportion living in the South Region is expected to decrease from 15.7% in 2012 to

14.9% in 2030. This represents about 4,750 South Region residents discharged with any mention of ADOD in 2030. Of these residents, 34.4% are expected to live in Chula Vista and more than one quarter will live in South Bay.

Estimate of the Number of Residents with Alzheimer's Disease and Other Dementias by Sub-Regional Areas of Health and Human Services Agency South Region, 55 Years and Older, San Diego County, 2012-2030



Source: County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics, Alzheimer's Disease and Other Dementias Database.

# CAREGIVERS IN SAN DIEGO COUNTY

In 2012, there were more than 136,800 San Diegans providing unpaid care for an estimated 60,000 people living with ADOD in San Diego County.<sup>3, 7</sup> These caregivers provided nearly 156 million hours of unpaid care, valued at \$1.94 billion dollars in 2013.

ADOD affects individuals in different ways, thus requiring different degrees and types of care for each person. Generally, caregiving often involves assistance with one or more activities of daily living (ADLs), such as bathing and dressing.<sup>3</sup> Other ADLs that caregivers often become responsible for include household chores, shopping, and meal preparation. As ADOD progresses, there are other activities that many caregivers eventually take over, including management of medications and medical care to organizing legal affairs and managing finances.<sup>3</sup> Furthermore, in the late stages of ADOD, those affected often require around-the-clock care.

Caregivers face unique challenges and often have more than one person for which they provide care. Nationally, over half of ADOD caregivers were taking care of their own parents and 30% of all ADOD caregivers had children still living at home.<sup>3</sup> These caregivers are referred to as “sandwich generation caregivers” because they have both children and parents dependent on them.



**More than 136,800 caregivers in San Diego County provided 156 million hours of unpaid care to those living with ADOD, worth \$1.94 billion dollars in 2012.**

# CAREGIVERS IN SAN DIEGO COUNTY

The work required of all caregivers, including the physical tasks, organization and planning required can lead to increased emotional stress, depression and financial hardships.<sup>3</sup> Financial hardships can result from both personal finances used to cover costs of care as well as loss of wages due to missing work. These stressors can result in poor health for the caregivers and the demands on caregivers of people living with ADOD can leave little time for managing their own health.<sup>3</sup> In San Diego County, the health care costs to caregivers due to the physical and emotional impact of caregiving were approximately \$75.4 million in 2012.

By 2030, there will be approximately 93,500 people age 55 years and over with ADOD in San Diego County. The increase in the number of San Diegans living with ADOD will require about 213,300 caregivers to provide 242.8 million hours of unpaid care a year. The value of this care is estimated to be worth \$3.02 billion in 2013 US dollars. The health care costs of unpaid caregivers will increase to \$117.6 million a year.



Many caregivers benefit from accessing resources such as respite care and utilizing services such as adult day care for those they are caring for.<sup>3</sup> The County of San Diego [Aging & Independence Services](#) provides services to older adults, to people with disabilities and their family members, to help keep clients safely in their homes, and to promote healthy and vital living. For more information on resources for those living with ADOD and their caregivers, call 800-510-2020. More services can be found by contacting the local chapter of the Alzheimer's Association.

**By 2030, about 213,300 caregivers will be needed to provide care to nearly 93,600 San Diegans living with ADOD.**



# EARLY SIGNS AND SYMPTOMS

Alzheimer's disease and other dementias affect individuals in different ways. However, there are 10 early signs and symptoms, as described by the Alzheimer's Association, that are typical of the disease. These are not meant to replace a consultation with a doctor, but rather serve as a tool to help identify potential symptoms. Individuals should see a doctor if they notice any of these signs.<sup>8</sup>

1

## **Memory loss that disrupts daily life.**

This may include forgetting recently learned information or important dates and events, repeatedly asking for the same information, or relying on memory aides or family members for things they typically used to manage on their own.

2

## **Challenges in planning or solving problems.**

Individuals may have difficulty developing a plan and following through. They may also have trouble working with numbers, such as keeping track of monthly bills.

3

## **Difficulty completing familiar tasks at home, at work, or at leisure.**

Daily tasks, such as driving to a familiar place, may be difficult to complete.

4

## **Confusion with time or place.**

This may include losing track of dates or the passage of time. Individuals with Alzheimer's disease may forget where they are or how they got there.

5

## **Trouble understanding visual images and spatial relationships.**

Individuals with Alzheimer's disease may have trouble reading, judging distance, or determining color and contrast. They may also have difficulty with perception, such as passing a mirror and not recognizing their reflection.

# EARLY SIGNS AND SYMPTOMS

6

## **New problems with words in speaking or writing.**

Following or joining a conversation may be difficult. Individuals with Alzheimer's may also have problems with vocabulary, such as not being able to find or use the right words.

7

## **Misplacing things and losing the ability to retrace steps.**

This may also include placing things in unusual places.

8

## **Decreased or poor judgment.**

Examples include using poor judgment when handling money, or paying less attention to daily tasks such as grooming and bathing.

9

## **Withdrawal from work or social activities.**

Individuals with Alzheimer's disease may start to detach themselves from hobbies, social activities, work projects, or sports. They may also avoid being social because of the changes they are experiencing.

10

## **Changes in mood and personality.**

This may include becoming confused, suspicious, depressed, or fearful. Individuals with Alzheimer's disease may also be easily upset, especially in places out of their comfort zone.



# HEALTHY BRAIN STRATEGIES

Some risk factors for Alzheimer's disease and other dementias (ADOD), such as age and genetics, cannot be controlled or prevented. However, there is growing evidence that it may be possible to delay, slow down, or even prevent ADOD.<sup>9</sup> Studies suggest that individuals who keep their brains healthy by practicing some of the following strategies may be able to delay or prevent the onset of ADOD.<sup>10</sup>



## Eat a Healthy Diet

A brain-healthy diet reduces the risk of heart disease and diabetes, stimulates blood flow to the brain, and is low in fat and cholesterol.<sup>11</sup>

- Eat dark-skinned vegetables, such as spinach, broccoli, bell peppers, beets, and onions.
- Choose fruits with high antioxidant levels, such as oranges, strawberries, plums, red grapes, and cherries.

## Connect with Family, Friends, and Community

Studies have shown that regular social interaction helps to maintain brain vitality.<sup>12</sup>

- Volunteer with community organizations.
- Join clubs and social groups.
- Spend time with loved ones.
- Stay active in the workplace.
- Attend local events.

## Get Active and Stay Active

Exercise maintains good blood flow to the brain, stimulates the growth of new brain cells, and has been shown to reduce brain cell loss.<sup>13</sup>

- Walk, bike, garden, practice tai chi, or engage in another physical activity for at least 30 minutes per day.
- Avoid injury by being aware of medications that may cause side effects, using appropriate protective equipment, recognizing physical limitations, and taking precautions to avoid falls (i.e. using handrails, watching for tripping hazards, wearing appropriate footwear).<sup>14</sup>

## Manage Chronic Conditions

There is emerging evidence that the presence of chronic disease may increase the risk of Alzheimer's and cognitive decline.<sup>9</sup>

- Manage chronic conditions such as vascular disease, high blood pressure, heart disease, and type 2 diabetes.<sup>9</sup>



# HEALTHY BRAIN STRATEGIES

## Learn New Things

Research has shown that keeping the brain active may increase its vitality, maintain brain cell reserves and connections, and even generate new brain cells.<sup>15</sup> Keep the brain active by:

- Reading, writing, and working on puzzles.
- Playing games and trying memory exercises.
- Enrolling in courses at a local adult education center or other community group
- Attending lectures and plays.



## Sleep 7 to 8 Hours Each Night

Insufficient sleep has been shown to increase the risk of chronic diseases, such as diabetes and cardiovascular disease.<sup>16</sup>

- Adults (including the elderly) are recommended to sleep seven to eight hours each night.



## Drink Alcohol Moderately

Excessive alcohol consumption may lead to persistent brain deficits and has also been linked to unintentional injuries, violence, and chronic diseases such as liver cirrhosis and cancer.<sup>17</sup> Limit alcohol intake by drinking moderately.

- Moderate alcohol consumption is defined as no more than one drink per day for women or two drinks per day for men.

**WHAT'S GOOD FOR THE BODY IS GOOD FOR THE BRAIN!**

# REFERENCES

1. County of San Diego, Health & Human Services Agency, Public Health Services, Epidemiology & Immunization Services Branch. *Leading Causes of Death Among San Diego County Residents, 2010-2012*. [http://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/community\\_epidemiology/epi\\_stats\\_mortality.html#leading\\_causes\\_of\\_death](http://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/community_epidemiology/epi_stats_mortality.html#leading_causes_of_death). Accessed 10/14/2014.
2. Centers for Disease Control and Prevention National Vital Statistics System, National Center for Health Statistics. *10 Leading Causes of Death by Age Group, United States—2012*. <http://www.cdc.gov/injury/wisqars/LeadingCauses.html>. Accessed 10/14/2014.
3. Alzheimer's Association. *2014 Alzheimer's Disease Facts and Figures, Alzheimer's & Dementia*. Volume 10, Issue 2. [http://www.alz.org/downloads/Facts\\_Figures\\_2014.pdf](http://www.alz.org/downloads/Facts_Figures_2014.pdf). Accessed 6/1/2014.
4. County of San Diego, Health & Human Services Agency, Public Health Services, Community Health Statistics Unit. *San Diego County Demographics Profile 2012 Population Estimates*. [http://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/community\\_health\\_statistics/regional-community-data.html](http://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/community_health_statistics/regional-community-data.html). Accessed 10/14/2014.
5. SANDAG. Current Population Estimates, 10/2012. Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. 9/3/2014.
6. American Community Survey. *Disability Status by Census Tract*. ACS 5 Year Estimate 2008-2012, Table S1810. <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>.
7. Alzheimer's Association. *Alzheimer's Disease Facts and Figures in California: Current Status and Future Projections*. 2009. <http://www.alz.org/cadata/FullReport2009.pdf>. Accessed 6/1/2014.
8. Alzheimer's Association. *10 Early Signs and Symptoms of Alzheimer's*. [http://www.alz.org/alzheimers\\_disease\\_10\\_signs\\_of\\_alzheimers.asp](http://www.alz.org/alzheimers_disease_10_signs_of_alzheimers.asp). Accessed 10/14/2014.
9. Centers for Disease Control and Prevention. *Healthy Aging*. <http://www.cdc.gov/aging/aginginfo/alzheimers.htm>. Accessed 10/14/2014.
10. National Institutes of Health. *Brain Health As You Age: You Can Make a Difference!*. <http://www.nia.nih.gov/health/publication/brain-health-resource>. Accessed 10/14/2014.
11. Alzheimer's Association. *Adopt a Brain-Healthy Diet*. [http://www.alz.org/we\\_can\\_help\\_adopt\\_a\\_brain\\_healthy\\_diet.asp](http://www.alz.org/we_can_help_adopt_a_brain_healthy_diet.asp). Accessed 10/14/2014.
12. Alzheimer's Association. *Remain Socially Active*. [http://www.alz.org/we\\_can\\_help\\_remain\\_socially\\_active.asp](http://www.alz.org/we_can_help_remain_socially_active.asp). Accessed 10/14/2014.
13. Alzheimer's Association. *Stay Physically Active*. [http://www.alz.org/we\\_can\\_help\\_stay\\_physically\\_active.asp](http://www.alz.org/we_can_help_stay_physically_active.asp). Accessed 10/14/2014.
14. Centers for Disease Control and Prevention. *Physical Activity*. <http://www.cdc.gov/physicalactivity/growingstronger/preparation/equipment.html>. Accessed 10/14/2014.
15. Alzheimer's Association. *Stay Mentally Active*. [http://www.alz.org/we\\_can\\_help\\_stay\\_mentally\\_active.asp](http://www.alz.org/we_can_help_stay_mentally_active.asp). Accessed 10/14/2014.

# REFERENCES

16. Centers for Disease Control and Prevention. Preventing Chronic Disease. *Raising Awareness of Sleep as a Healthy Behavior*. [http://www.cdc.gov/pcd/issues/2013/13\\_0081.htm](http://www.cdc.gov/pcd/issues/2013/13_0081.htm). Accessed 10/14/2014.
17. Centers for Disease Control and Prevention. Alcohol and Public Health. *Frequently Asked Questions*. <http://www.cdc.gov/alcohol/faqs.htm>. Accessed 10/14/2014.



# DATA GUIDE AND DEFINITIONS

## Data Guide

Caution must be used when exploring data from multiple sources or even the same data prepared by different analysts; comparisons may not be appropriate. Attention to accompanying information is important in order to note differences, including, but not limited to: data sources, data preparation, diagnoses/case definitions, rate constant (i.e. per 100,000 or 1,000), geographic units, persons included in the data (i.e. location of occurrence vs. location of residence, or among live births not total pregnancies).

## Geography: Understanding Geographic Units Used in Health Data

Many different geographic units are used throughout San Diego County. In this document, boundaries for Regions and Sub-regional Areas (SRAs) are based on census tracts and approximate Health and Human Service Agency (HHSA) Region boundaries are based on zip codes.

Many data users have expressed the desire for community level data, beyond the HHSA Region (which are large aggregations of zip codes). Several levels of geography may be considered, such as SRAs, Census Tract, Zip Code, or City. In order to provide community level health data and compare populations, it is important to have stable geographic units and units that are compatible with population data estimates.

While most health data is reported by zip code, zip codes may change at any time throughout the year – making annual aggregated estimates difficult. Additionally, since zip codes may change from one year to the next, comparing zip code data over time may introduce a level of imprecision. SRAs are small, community level geographic units based on census tracts which are stable between census years (i.e. change only every 10 years, if at all). Population estimates are available at this level with high level of accuracy. However, health data for an SRA must be estimated based on reported zip code data.

## Types of Data Available for Geographic Boundaries

In this document, community level (SRA) data is aggregated to larger regional levels. Currently, Region aggregations based on SRAs closely approximate, but do not directly correspond to HHSA Regions. In order to have more accurate community level data and enable reliable comparisons over time and place, SRA Region aggregations are used in lieu of HHSA Regions.

### *Harbison Crest/El Cajon*

Due to data aggregation methods, health data for the Harbison Crest SRA may be misleading. Health data are presented as an aggregate of two SRAs, Harbison Crest and El Cajon for better data stability and representation of the area.

## Number, Proportion, Prevalence, and Rate

The data in this report includes numbers, proportions, and crude rates (from this point forward referred to as rates) for Regional and SRA level data:

- The number and proportion (or percent) represent the burden to the community of which the data is being reported.
- The prevalence is the estimated number of people with a particular condition. In the case of this report, prevalence is the estimated number of people living with Alzheimer's disease and other dementias (ADOD).

# DATA GUIDE AND DEFINITIONS

- A rate is the number of cases divided by the population, usually multiplied by a constant. For example 987 cases, divided by population of 654,321 multiplied by 100,000 would be a rate of 150.8 per 100,000 population. The rate can be interpreted as an individual's risk and the odds of an outcome occurring.

## Methods

### *Medical Encounters*

Any mention of ADOD in a medical record refers to review of the 25 diagnosis fields within a medical record to find if any of the identified International Classification of Diseases (ICD) 9 codes associated with ADOD were reported in any of the 25 fields. Emergency department (ED) discharges refers to patients who were treated in the ED and then either discharged home or to another facility, such as a skilled nursing facility or a rehabilitation unit. Patients who were treated in the ED and then admitted into a hospital for further treatment and care are not included in the ED database. The numbers of unique individuals discharged from the ED or from the hospital were summed to provide an estimate of total number of unique users with ADOD. However, it is not possible to distinguish the individuals with discharges from the ED and the hospital in the same year and therefore would be counted twice.

It is important to note the difference between a discharge and the number of people discharged. One person may be discharged from the ED or hospital multiple times in a year. Throughout the report, the words “discharge” or “hospitalization” are used to discuss the actual numbers of discharges from the ED or hospital. When referring to the number of people who were discharged, terms such as “unique users”, “unique individuals”, and other similar phrases are used to emphasize that the data is talking about the people discharged from the ED or hospital.

### *Prevalence Estimates*

The distribution of individuals discharged from the ED or hospital with any mention of ADOD in 2012 was applied to the county-wide estimate of 60,000 individuals with ADOD to estimate the prevalence of residents currently living with ADOD by sub-regional area (SRA).

### *Projections*

The 2012 to 2020 percent change for the 55-64, 65-74, 75-84, and 85 years and older age group populations of each SRA was applied to the 2012 ADOD prevalence estimates for the corresponding SRA to obtain the 2020 ADOD prevalence estimates by SRA. ADOD projections for SRAs within each region were summed to find the projection for the corresponding region. The regions were added to determine the projection for San Diego County. This was repeated using the 2020 to 2030 population projections to obtain the 2030 ADOD prevalence estimates. The same methodology was applied to the 2012 ED or hospital discharged individuals to obtain medical encounter projections for 2020 and 2030.

# DATA GUIDE AND DEFINITIONS

## International Classification of Disease (ICD) 9 Codes

The ICD-9 codes used to define Alzheimer's disease and other dementias are listed in the table below:

ICD-9 Code	Disease Name
331.0	ALZHEIMER'S DISEASE
046.1	CREUTZFELDT-JAKOB DISEASE
331.82	DEMENTIA WITH LEWY BODIES (DLB)
331.1	FRONTOTEMPORAL DEMENTIA
333.4	HUNTINGTON'S DISEASE
331.83	MILD COGNITIVE IMPAIRMENT
331.5	NORMAL PRESSURE HYDROCEPHALUS
332	PARKINSON'S DISEASE
290.4	VASCULAR DEMENTIA
294.0	KORSAKOFF SYNDROME
294.1	DEMENTIA IN CONDITIONS CLASSIFIED ELSEWHERE
331.2	SENILE DEGENERATION OF BRAIN
331.7	CEREBRAL DEGENERATION IN DISEASES CLASSIFIED ELSEWHERE
290.0	SENILE DEMENTIA, UNCOMPLICATED
290.1	PRESENILE DEMENTIA
290.2	SENILE DEMENTIA WITH DELUSIONAL OR DEPRESSIVE FEATURES
290.3	SENILE DEMENTIA WITH DELIRIUM
294.2	DEMENTIA, UNSPECIFIED
294.8	OTHER PERSISTENT MENTAL DISORDERS DUE TO CONDITIONS CLASSIFIED ELSEWHERE
797	SENILITY WITHOUT MENTION OF PSYCHOSIS



# County of San Diego Board of Supervisors



**Greg Cox**  
District 1



**Dianne Jacob**  
District 2



**Dave Roberts**  
District 3  
Vice Chair



**Ron Roberts**  
District 4



**Bill Horn**  
District 5  
Chair



**Helen N. Robbins-Meyer**  
Chief Administrative Officer  
County of San Diego



**Donald F. Steuer**  
Assistant Chief Administrative Officer/  
Chief Operating Officer



**Nick Macchione, FACHE**  
Health and Human Services Agency  
Director/General Manager



**Ron Lane**  
Public Safety Group  
General Manager



**Sarah Aghassi**  
Land Use and Environmental Group  
General Manager



**David Estrella**  
Community Services Group  
General Manager



**Tracy Sandoval**  
Finance and General Government Group  
General Manager